

Co-organized by:



UNITED NATIONS
Office for Outer Space Affairs



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FEDERATION

Hosted by:



29th UN/IAF Workshop on Space Technology for Socio-Economic Benefits "Access to Space for All: Bridging the Space Divide"





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*1 Please note that the order of the presenters is in the speaking order of the session.

*2 Session 2 is divided into 4 parts.



Introduction

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The United Nations, through its Programme on Space Applications implemented by the United Nations Office for Outer Space Affairs (UNOOSA), and the International Astronautical Federation (IAF) are co-organizing the Workshop on Space Technology for Socio-Economic Benefits. It is held in conjunction with the International Astronautical Congress (IAC).

For the 29th edition of the UN/IAF Workshop, it is hosted with the French Space Agency (CNES) in Paris and the theme is "Access to Space for All: Bridging the Space Divide" to bring together policy- and decision-makers, and the research and academic communities to discuss different topics related to space and how space science, technologies and applications can support of sustainable economic, social and environmental development and the development of science, technology and innovation (STI) policies related to space.

Details Date: 16, 17 September 2022

Venue: Paris Convention Center, 1 PL de la PRTE de Versailles Paris, 75015, Paris

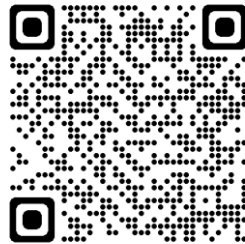
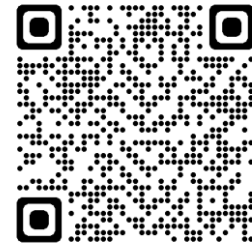
For more information



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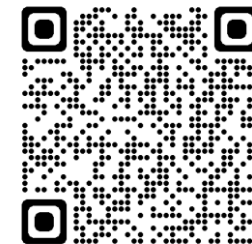
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29th UN/IAF
Workshop Website



Past Workshops





Objectives

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The main objectives of the Workshop are to:

- Bring together policy- and decision-makers, and the research and academic communities to **help integrate space into policy and the decision-making process.**
- **Raise awareness** about the activities of international and national entities, space agencies, industry and civil society activities related to **innovation and socio-economic benefits of space activities;**
- **Raise awareness about capacity-building efforts** on activities to enable access to space and discuss synergies and common areas of work;
- **Raise awareness of the efforts of the international space community** on international cooperation efforts and partnerships involving space emerging nations and industries;

The workshop will address the specific elements of SDG 4 (quality education), SDG 8 (decent work and economic growth), SDG 10 (reduced inequalities), SDG 9 (industry, innovation and infrastructure), in addition to SDG 17 (partnerships for the Goals).



The Workshop will serve as a **platform to ensure inclusive development in the areas of space technologies** taking people, students, private sectors, researchers, academia, innovators and other actors on board in **bringing the benefits of space exploration to the end-users.**



Organizing Committee

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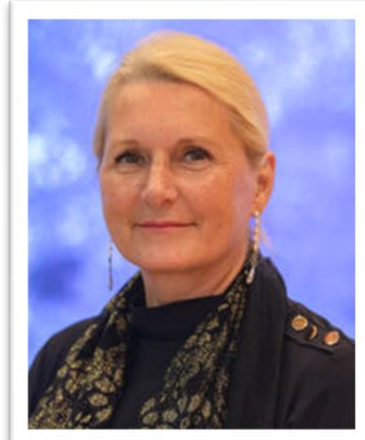
Hosts:



Honorary Committee



Niklas Hedman
Acting Director, United Nations Office for Outer Space Affairs (UNOOSA)



Pascale Ehrenfreund
President, International Astronautical Federation (IAF)



Philippe Batiste
President, French Space Agency (CNES)

Programme Committee

Name	Organization
Jorge Del Rio Vera	Scientific Affairs Officer, Space Applications Section, United Nations Office for Outer Space Affairs (UNOOSA)
Hazuki Mori	Expert, Space Applications Section, United Nations Office for Outer Space Affairs (UNOOSA)
Christian Feichtinger	Executive Director, International Astronautical Federation (IAF)
Cournet Myriam	IAC Paris 2022 Project Manager, French Space Agency(CNES)
Celine Calleya	French Space Agency(CNES)
Masami Onoda	Chair, IAF Committee for Liaison with International Organisations and Developing Nations (CLIODN)
Peter van Beekhuizen	Vice-Chair, IAF Committee for Liaison with International Organisations and Developing Nations (CLIODN)
Alejandro Roman	Chair, IAF Committee on Developing Countries and Emerging Countries (ACDCEC)
Matias Campos	Vice-Chair, IAF Committee on Developing Countries and Emerging Countries (ACDCEC)



Programme

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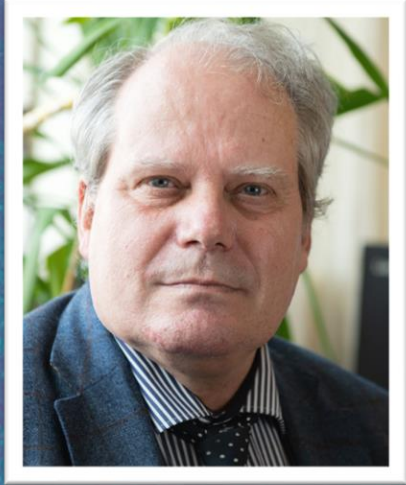
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Hosts:



- **Opening Ceremony**
- **Session 1: Heads of Governmental Space Actors on Innovation, International Cooperation and Socioeconomic Benefits of Space**
Governmental Space Actors bear the most responsibilities to serve social and economic development using space technologies and bring the benefits of space all over the world. The Access to Space for All Initiative works with various governmental actors to bring the access to space opportunities to United Nations Member States with particular attention to developing nations, to bridge the space divide.
- **Session 2: Session: Access to Space Enablers**
This session will provide an overview of the different elements that are needed to maximize the benefits of space activities. This session welcomes government officials, members of academia, private sector, students and practitioners, aiming at providing a holistic view of the key elements that make space a sustainable endeavor.
- **Session 3a: Science, Technology and Innovation from Hypergravity and Microgravity Experimentation**
The Hypergravity and Microgravity experimentation aims at developing the knowledge, engineering processes and human workforce to conduct basic science and technology experiments in hypergravity and microgravity conditions. It works as the foundation of space technology and space exploration. Hypergravity and Microgravity experimentation contains ground facility experimentation and in-orbit experimentation, research outcomes, innovation ideas and cooperation efforts are welcome in this session.
- **Session 3b: Science, Technology and Innovation from Satellite Development**
This session provides a chance in exchanging ideas on satellite development efforts, including educational efforts for developing technical know-how, engineering processes and satellite development case studies. Participants from developing nations are especially encouraged to submit their contributions to this session.
- **Session 3c: Science, Technology and Innovation from Space Exploration**
Thanks to an inclusive approach implemented by many space-faring countries, several developing space-emerging nations are also diving into space exploration. Space exploration efforts by international and national entities, space agencies, industry and civil society, reveal the latest and future approaches toward space exploration are welcome in this session.
- **Closing Ceremony**

Session 1: Heads of Governmental Space Actors on Innovation, International Cooperation, and Socio-economic Benefits of Space



Niklas Hedman
Acting Director, UNOOSA



Mambimba Ndjoungui Aboubakar
Deputy Director, Gabonese Agency
for Space Studies & Observations



Yeshurun Alemnayehu
Deputy Director General, Ethiopian
Space Science & Technology Institute



Jean-Marc Astorg
Director of Strategy, CNES



Marglad Bencomo Noguera
Executive Director, Bolivian
Agency for Space Activities



Rodrigo Da Costa
Executive Director, EUSPA



Crystal Johnson
Deputy Director for Technology
& Research Investments, NASA



Charles Maina Mwangi
Acting Director, Space Sector &
Technology Dept, Kenya Space Agency



Giorgio Saccoccia
President, ASI



Sherif Sedky
CEO, Egyptian Space Agency



Session 1: Presenter Bios

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Chair:

Niklas Hedman

Acting Director, United Nations
Office for Outer Space Affairs

Mr. Niklas Hedman is designated Acting Director of the United Nations Office for Outer Space Affairs (UNOOSA). He is Chief of Committee, Policy and Legal Affairs Section of UNOOSA. He serves as Secretary to the intergovernmental Committee on the Peaceful Uses of Outer Space (COPUOS) and its Scientific and Technical Subcommittee and Legal Subcommittee. He is responsible for the UNOOSA capacity-building programme on space law and policy. Before joining the United Nations in 2006 he worked in the Swedish Ministry for Foreign Affairs, mainly in the areas of ocean affairs and law of the sea, space affairs and space law, as well as biological weapons and missiles. He represented Sweden to COPUOS before joining the United Nations. He is currently Vice-Chair of the COSPAR Panel on Planetary Protection.



Rapporteur:

Giovanna Estefania Ramirez Ruiz

Aerospace and Electronic Systems
Society, Colombia

Electronic engineer, master's degree in development and comprehensive project management, aviation pilot. She teaches the master's program in aerospace engineering at the San Buenaventura University and the Julio Garavito Colombian School of Engineering. President of the professional chapter Aerospace & Electronic Systems Society- AESS Colombia chapter (2019-2021). Analog Astronaut of the Polish Aerospace Training Center; Former fellow of the Japan Global Space consortium, Researcher and developer of a space mission through a HeptaSat-satellite. She has worked in the Directorate of Science, Technology and Innovation and in the Postgraduate School of the Colombian Air Force.

She has participated in different national and international research projects in cooperation with IEEE (Institute of Electrical and Electronics Engineers), UNISEC (University Space Engineering) and the Colombian Air Force. She has recognitions such as: "Successful Women Award Colombia 2020" in the Science and Technology category, Best Young professional IEEE 2019. Entrepreneur of the year 2018 'with the JULIO GARAVITO award', and Author of the "Genius Pamper" invention. She was recognized as a Young Promise by COLPARMEX and selected as a Recipient of the Galileo International Chair by COLPARMEX.



Session 1: Presenter Bios

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Presenter:
Mambimba Ndjoungui Aboubakar
Deputy Director, Gabonese Agency
for Space Studies & Observations

Dr. Aboubakar MAMBIMBA NDJOUNGUI has been the Deputy Director General of the Gabonese Agency for Space Studies and Observations (AGEOS) since 2015. Since 2011, he has contributed to the popularization of the space sector in Africa and particularly in Central Africa. He was the project manager for the construction of AGEOS infrastructure and the administrative and technical organization of the agency. Today, he deals with technical issues and external relations. He is an expert in the space field, a graduate of the National School of Geographical Sciences of Marne-La-Vallée in France and of the Pierre and Marie Curie University (Paris 6).

He has more than 25 years of experience in satellite imagery applications and image quality in European companies. Back in Africa, he forged strong links with other space agencies to continue training and popularization of space in Africa. He was able to mobilize and convince several actors and political decision-makers on the importance of space in decision support. Today he launched a national project to build a constellation of nano-earth observation satellites.



Presenter:
Yeshurun Alemayehu
Deputy Director General, Ethiopian
Space Science and Technology Institute

Dr. Yeshurun Alemayehu Adde (Kibret) has a PhD degree in Business Administration (focusing on Servant Leadership) and is a PhD scholar in Mechanical Design Engineering (focusing on Space Robotics) in Addis Ababa University. He has also an MSc degree in Mechanical Design Engineering from Addis Ababa University, Postgraduate Diploma in Marine Engineering from Bahir Dar University, and B.Tech. in Mechanical Engineering from Defense University. Since 2009 he has been working on the position of Lecturer at different public universities (including Addis Ababa University, Adama Science & Technology University, Hawassa University, Mizan-Tepi University, Wolaita Sodo University, Dilla University, Wachamo University, Wolkitie University and Ambo University). He is the founder and the first dean of College of Engineering and Technology at Mizan-Tepi University from 2009 to 2011. From 2014 to 2015 he used to work on the position of Engineering Watch-keeping (Engine Cadet & Oiler) on an international seagoing bulk carrier vessel and sailed the international waters. Since November 2017 he has been working at Ethiopian Space Science & Technology Institute on different positions starting from Associate Researcher, Director of Aerospace Engineering Research & Development Directorate, Project Manager of Satellite Manufacturing & AIT Center Project, and currently he is the Deputy Director General of Ethiopian Space Science & Technology Institute. He is the founder and chairman of African Aeronautics & Astronautics Center.



Session 1: Presenter Bios

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Presenter:

Jean-Marc Astorg

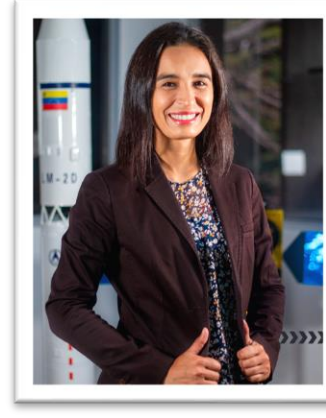
Strategy Director, French Space Agency (CNES)

Jean-Marc Astorg joined the CNES Launch Vehicles Directorate in 1985. He has been deeply involved in the Ariane launcher family, taking increasing responsibilities in the development of the European launcher. In particular, he was the project manager of the Ariane 5 new upper stage ESC-A development from 1997 to 2003. He then directed the 'Soyuz in French Guiana' project, from 2003 to the first launch in 2011.

In 2012, after the first flight of Soyouz in French Guiana, he became Director of Procurement, Sales and Legal Affairs.

In 2015, he was appointed as CNES Director of Launch Vehicles, managing a team of 300 engineers in charge of the CNES support to Ariane 5 exploitation, the construction of the Ariane 6 launch pad and the preparation of future launchers through demonstrators like Prometheus, Callisto and Themis.

In 2022, he was appointed as CNES Director of Strategy, which includes in the new CNES organization the strategy but also prospective, future studies & technology maturation, preparation of new programs, industrial policy and interfaces with private and public partners



Presenter:

Marglad Bencomo Noguera

Executive Director, Bolivarian Agency for Space Activities (Venezuela)

Marglad Bencomo is Electronic Engineer, she has fourteen years working in the Bolivarian Agency for Space Activities (ABAE), she was Space Segment Coordinator in VENESAT-1 and VRSS-1 program, after that she was working as Quality, Standardization and Regulation Manager, and she participated as Product Assurance Manager in the VRSS-2 program. Her current position in ABAE is Executive Director, from 2019 until now, she has been managing projects in satellite operations, geomatics, space technical and building capacities development, new national satellite programs, STEM education programs, etc.



Session 1: Presenter Bios

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Presenter:

Rodrigo Da Costa

Executive Director, European Union Agency for the Space Programme

STARTING DATE AT EUSPA March 2017

PROFESSIONAL EXPERIENCE

2017-2020 European GNSS Agency, Prague, Czech Republic, Galileo Exploitation Programme Manager

2012-2017 Airbus Defence and Space, Bremen, Germany, Director Future Projects and Business Development

2009-2012 Airbus Defence and Space, Bremen, Germany, Head of Launchers Evolutions Business Development

2008-2009 Airbus Defence and Space, Bremen, Germany, Senior Coordinator Launchers

2005-2007 Airbus Defence and Space and NGL SpA, Turin, Italy, System Engineer, IXV functional system

2001-2004 Airbus Defence and Space, Bremen, Germany, Guidance, Navigation, and Control Engineer

EDUCATION

1999 Licenciatura in Aerospace Engineering

2001 MSc in Aerospace Engineering

2011 MBA



Presenter:

Christyl Johnson

Deputy Director for Technology and Research Investments, Goddard Space Flight Center, National Aeronautics and Space Administration (NASA)

Dr. Christyl Johnson joined NASA Goddard as Deputy Center Director for Technology and Research Investments in 2010. She manages the Center's research and development portfolio, formulates the Center's future science and technology goals, and leads an integrated program of investments aligned to meet those goals.

Dr. Johnson came to Goddard from the White House Office of Science and Technology Policy, where she served as the Executive Director of the National Science and Technology Council, and was responsible for ensuring the establishment of national goals for Federal science and technology investments in a broad array of areas across the executive branch.



Session 1: Presenter Bios

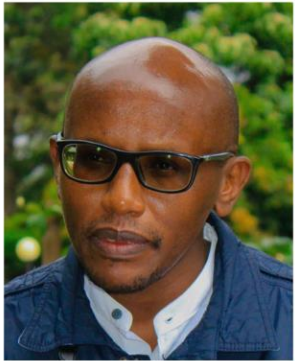
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Presenter:
Charles Maina Mwangi
Acting Director Space Sector and
Technology Development, Kenya
Space Agency

Charles Mwangi is the Ag. Director, Space Sector & Technology Development who is overseeing Earth Observation (EO), Research, Education and Outreach programs at the Kenya Space Agency (KSA). He represents Kenya as an alternate member of the Programme Board of the Group on Earth Observation (GEO). Mr. Mwangi was part of the team that developed Kenya's first space object, 1st Kenyan University NanoSatellite - Precursor Flight (1KUNS-PF), which was launched to space with support from UNOOSA and JAXA from the International Space Station KiboCUBE module.

Mr. Mwangi is currently leading a number of Earth Observation and Research projects at KSA including the Research Grant program. He serves in the advisory panel for Africa EO Challenge and EO Farm (initiative of NASA Harvest). He has previously served in the advisory panels of Stockholm+50 scientific report (main & youth report). He previously served as Coordinating Lead Author to the Sixth Global Environmental Outlook (GEO-6) report on Data and Knowledge chapters and was the co-chair of UNEP's GEO-6 for Youth, a derivative product of UN Environment's Sixth Global Environmental Outlook (GEO-6) assessment report for the youth.

He holds a Master's degree in Electrical Engineering (Control Engineering) from Jomo Kenyatta University of Agriculture, an International Master degree on Space Mission Design and Management from Sapienza University of Rome, Italy. He has also undertaken a Postgraduate course in GIS and Remote Sensing from ITC, University of Twente in Netherlands amongst other diverse training on project management, satellite engineering and remote sensing.



Presenter:
Giorgio Saccoccia
President, Italian Space Agency (ASI)

Giorgio Saccoccia, current President of the Italian Space Agency (ASI) since April 2019, has over thirty years of experience in the aerospace sector, mainly gained in the international arena.

Graduated with honors in Aeronautical Engineering with specialization in space at the University of Pisa on March 1988, he completed his studies with a Master in Business Administration at the European Headquarters in Leiden (NL) of the Webster University of St. Louis (USA) in 1995.

After three years of work in Italy, he joined the European Space Agency (ESA) in 1990 at the European Space Technology and Research Center (ESTEC) in the Netherlands, covering various positions over the years. From 2003 to March 2019 he was Head of the Propulsion and Aerothermodynamics Division, responsible for European Research and Development and for supporting projects in the propulsion sector for satellites and launchers, aerothermodynamics and, more in general, for the design of new vehicles for space transportation.

Under his presidency at ASI, the Italian space budget has more than tripled, allowing Italy to strongly strengthen its international positioning in the sector. Through a careful reorganization of the Agency, there has been an increase in ASI staff of about 30 %.

Giorgio Saccoccia is an Associate Fellow of the AIAA (American Association for Aeronautics and Astronautics), full Member of the International Academy of Astronautics (IAA) and Emeritus Member of French Aeronautics and Astronautics Association.



Session 1: Presenter Bios

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Presenter:

Sherif Mohamed Sedky

Chief Executive Officer, Egyptian
Space Agency

Sherif Sedky was born in Cairo (Egypt) in December 1969. He has over 30 years of regional and international experience in multinational academic institutions in the Middle East, Europe and the United States, where he worked at the University of California Berkeley (USA), Stanford University (USA), the Catholic University of Leuven (Belgium), the American University in Cairo (Egypt), Zewail City of Science and Technology (Egypt), the University of Sharjah (UAE) and Newgiza University (Egypt). Dr. Sedky published over 100 international referred journal and conference articles, holds 19 patents, authored a book, and his H-index is 25 according to google scholar. He served on top senior executive management positions over the past 10 years where he dealt with a large body of multi-national faculty, students and staff.

Dr. Sedky built a state-of-the-art research facility that included the first clean room in Egypt and the region, which enabled building a solid research foundation in Egypt in advanced technologies.

Dr. Sedky was selected by late Nobel Laureate Dr. Ahmed Zewail to serve as the Founding Provost and Executive President of Zewail City, Egypt's National Project for Scientific Renaissance where he was managing all academic, financial and scientific affairs. Dr. Sedky managed to build a scientific edifice composed of a world-class university and research institutes that cope with the latest developments in sciences and technology and capable of addressing the major global challenges which include, but are not limited to, epidemic diseases, renewable energy, water, space technology and environment.

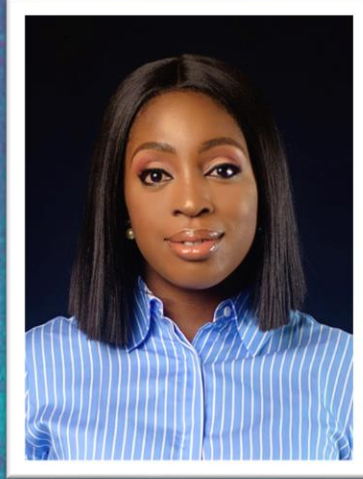
Currently Dr Sedky is the Chief Executive Office of the Egyptian Space Agency.



Session 2 (1): Access to Enablers



Chair:
Masami Onoda
Chair, IAF CLIODN/Director, JAXA
Washington Office



Rapporteur:
Alma Okpalefe
Nigerian Communications
Satellite Limited



Presenter:
Yukiko Okumura
United Nations Office for Outer
Space Affairs



Presenter:
Chuen Chern Loo
International Telecommunication
Union



Presenter:
Tomoko Miyamoto
World Intellectual Property
Organization



Presenter:
Claire Jolly
Organizations for Economic
Co-operation and Development



Presenter:
Gustavo Alonso Cabrera Rodriguez
Latin-American & Caribbean Space Agency



Session 2 (1): Presenter Bios

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Chair:

Masami Onoda

Chair, IAF CLIODN/ Director,
Washington D.C. Office, Japan
Aerospace Exploration Agency
(JAXA)

Masami Onoda is currently Director of JAXA Washington D.C. Office, representing the Japanese space agency in the Americas. Dr. Onoda has extensive experience in international affairs, satellite applications and industry relations. She has held several international positions, including at the intergovernmental Group on Earth Observations (GEO) Secretariat in Geneva, Switzerland, and at the UN Office for Outer Space Affairs in Vienna, Austria. She has also worked with SMEs on small satellite technology transfer while operating the JAXA office in Osaka, Japan. In the academic field, Dr. Onoda led an inter-agency grant research project that resulted in a book titled "Satellite Earth Observation and Their Impact on Society and Policy" (Springer, 2017). Dr. Onoda holds a Ph.D. in Global Environmental Studies (2009) and master's degree in environmental management (2005), both from Kyoto University Graduate School of Global Environmental Studies, and a BA in international relations from the University of Tokyo.



Rapporteur:

Alma Okpalefe

Nigerian Communications Satellite
Limited

Alma Okpalefe is the Company Secretary and Legal Adviser of Nigerian Communications Satellite (NIGCOMSAT) Ltd, where she oversees Legal Services and International Cooperation. Alma is a graduate of the University of Manchester, United Kingdom, where she obtained an LLB (Law), she also has an LLM in Corporate and Commercial Law from King's College, University of London. She has been called to the Bar of England and Wales, and Nigeria respectively, and secured a Masters of Business Administration from Business School, Netherlands. Since 2006, she has worked extensively on national and regional communication satellite projects in Africa, and presently serves as the project secretary for the NigComSat-2 project.



Session 2 (1): Presenter Bios

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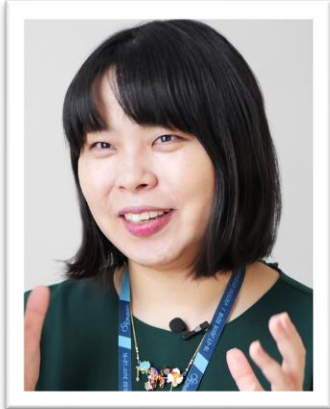


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Presenter:

Yukiko Okumura

Legal Liaison Officer, United Nations
Office for Outer Space Affairs

Yukiko Okumura works as a Legal Liaison Officer the United Nations Office for Outer Space Affairs (UNOOSA), Committee, Policy and Legal Affairs Section and is the project lead of the Space Law for New Space Actors project of UNOOSA. She gained her expertise in space law and policy through her education in LL.M. from University of Vienna, Austria and LL.B., Master of Media and Governance, and Ph.D. from Keio University, Japan. Before joining the United Nations, Ms. Okumura served at the Legal and Compliance Office of Japan Aerospace Exploration Agency (JAXA) and at the Integrated Support Center for Nuclear Nonproliferation and Nuclear Security of Japan Atomic Energy Agency (JAEA) where she gained her expertise in designing and delivering capacity-building programmes and training courses. She also served as a Lecturer on Space Law/International Law in National Defense Academy of Japan and other universities.



Presentation Title:

**National Space Law as a Key Access to Space
Enabler**



Presenter:

Chuen Chern Loo

International Telecommunication Union

Chuen Chern Loo has been working in the satellite industry for over 20 years, with experience of working in a satellite operator, a spacecraft manufacturer and the International Telecommunication Union (ITU). At the ITU, he is currently the head of the Space publication and registration division, responsible for managing the division that processes and publishes satellite filings submitted to the ITU.



Presentation Title:

**Frequency allocations and the corresponding
regulatory process for the registration and
recording of frequency assignments**



Session 2 (1): Presenter Bios

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Presenter:

Tomoko Miyamoto

Head, Patents and Treaties Law Section, World Intellectual Property Organization (WIPO)

Ms. Tomoko Miyamoto is a Head of the Patents and Treaties Law Section in the World Intellectual Property Organization (WIPO). She has wide-ranged experience regarding patent policy, law and practices, including legislative advice and capacity building.



Presentation Title:

The Role of Intellectual Property in Promoting Innovation and Access to Space Technologies



Presenter:

Claire Jolly

Organization for Economic Co-operation and Development

Claire is Head of Unit in the Directorate for Science, Technology and Innovation (STI) in the Organisation for Economic Co-operation and Development (OECD).

She is in charge of OECD research and analysis on the economics and innovation dimensions of two important frontier domains: the ocean and the space environment. Many economic activities, as well as much science and innovation, are linked to the exploration and sustainable uses of the ocean and of the space environment. Both will be critical for our future, we need to ensure their long term sustainability. The current OECD analysis supports countries' space and ocean national priorities, including G7 and G20's agendas for economic development and sustainability.

Claire Jolly has over twenty-five years of experience in business and policy analysis, supporting decision-making and strategic planning in public and private organisations in Europe and North America. She joined the OECD in 2003. She had authored and contributed to over fifty publications (books, reports, articles) focusing on the evolution and economic impacts of science and technology-intensive sectors. Her background is in international economics (Univ. Versailles, Cornell University), engineering with a special interest in the space sector (ENSTA; ISU). She is also an alumna of executive programmes of the French Institute for Higher National Defence Studies (IHEDN) and of the Singularity University.



Presentation Title:

Socio economic foundations for space programme





Session 2 (1): Presenter Bios

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Presenter:

Gustavo Alonso Cabrera Rodríguez Latin-American and Caribbean Space Agency (ALCE)

Gustavo Alonso Cabrera Rodríguez is Mexico Ambassador to the Latin American and Caribbean Space Agency (ALCE). México Ambassador in Nicaragua, and Director General of Technical and Cientific Cooperation en Mexican Cooperation Agency.-Government of México. He received his Bachelor's degree in Social Anthropology from the National School of Anthropology and History, and his Master's Degree in "Cultural Management and Sustainable Development at the Ortega-Vasconcelos Research Institute"



Presentation Title:

An overview of ALCE and its connections with STI policies

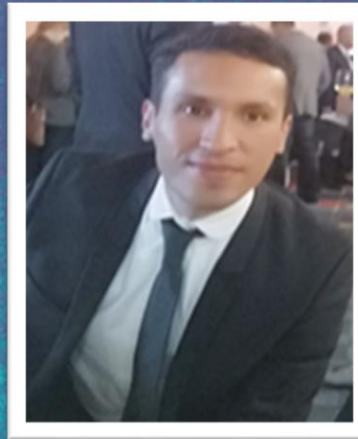
Session 2 (2): Access to Enablers



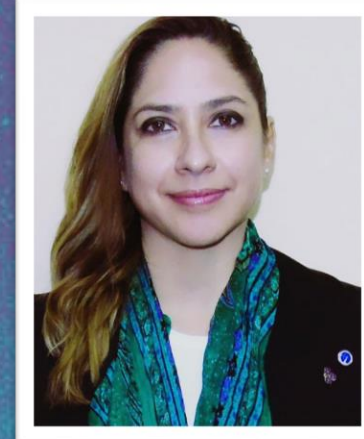
Chair:
Pieter van Beekhuizen
Vice Chair, IAF CLIODN



Rapporteur:
Eden Abeselom Habteslasie
Ethiopia Space Science and
Geospatial Institute



Presenter:
Jesus Romero
Mexican Space Agency



Presenter:
Hebe Romero
Paraguay Space Agency



Presenter:
Helene de Boissezon
French Space Agency



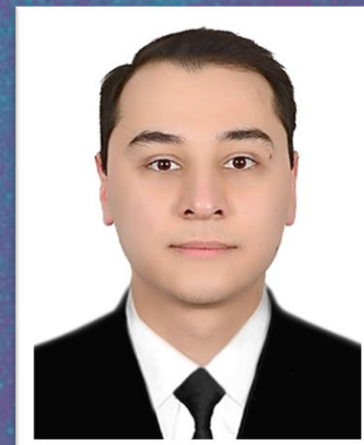
Presenter:
Andrew Eddy
Athena Global



Presenter:
Julie Ann Banatao
Philippine Space Agency



Presenter:
Somaia Mohammed
Egyptian Space Agency



Presenter:
Ismoil Rasulov
Space Research & Technology Agency
(Uzbekistan)



Session 2 (2): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Chair:

Pieter van Beekhuizen

Vice-Chair, IAF - Committee for Liaison with International Organisations and Developing Nations (CLIODN)

Pieter van Beekhuizen has worked his whole professional life in the space domain, first with ESRO and later with ESA, and has occupied during this period a large variety of different staff functions and management responsibilities within ESA

His last assignment was Head of ESA Industrial Cost Auditing and Return Division which has included industrial costs audits and the provision of the industrial geo return data to ESA Member States. In this capacity he was involved in multiple programme reviews and chaired various Management and Cost panels for large ESA programme procurements.

During the last years at ESA, he was also involved in the European initiatives for space commercialisation opportunities/projects.

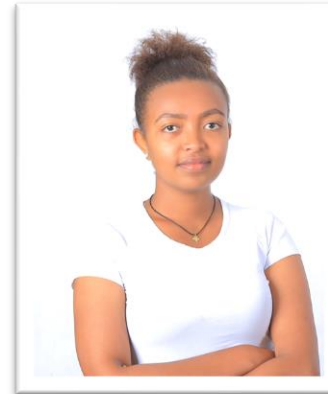
Following his retirement from ESA he started a consultancy company (Bexperience) providing consultancy and support services for various clients in different countries and continents.

He is Board member of SSPF, a foundation set-up to financially support young professionals and/or students in the Dutch space sector to apply for space studies programs.

He has also recently joined the Board of NVR, the Netherlands Space Society and is a member of the Executive Board of the Colombian Space Agency.

Within IAF he has been nominated as Vice-Chair of the CLIODN committee (Committee for Liaison International Organisations and Developing Nations).

Furthermore, he has served as moderator and as panel member in space related events at multiple occasions.



Rapporteur:

Eden Abesalom Habteslasie
Ethiopia Space Science and Geospatial Institute

Habteslasie, Eden Abesalom is a graduating student with a Bachelor of Electrical and Computer Engineering with industrial control stream (Honor) at the Debre Berhan University and a master's student in Space Engineering, Ethiopia. She is an Assistant Researcher in the Department of Aerospace Engineering Research and Development Directorate at the Space Science and Geospatial Institute. She's a coordinator at the Ethio Space Kids Club (ESKC) program and a program coordinator for the Women in Space and Engineering (WiSE) project, and an event coordinator of space technology for the earth application (STEA) voluntary project group of the Space Generation Advisory Council (SGAC).



Session 2 (2): Presenter Bios

Co-organizers:

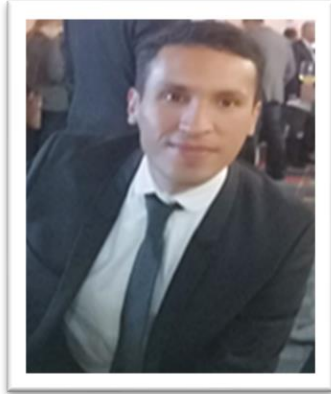


UNITED NATIONS
Office for Outer Space Affairs



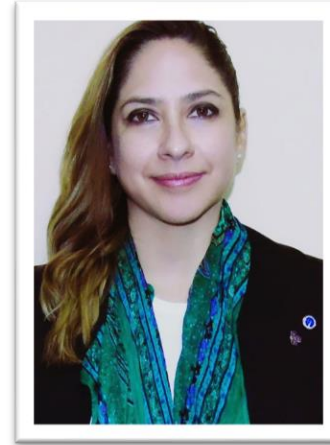
INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Jesus Romero
Mexican Space Agency

Jesus Romero is a lawyer specializing in Public International Law and State Assets in Space Matters. Some of its functions in the AEM is to carry out the cooperation strategy on space issues with governments, multilateral organizations, and agencies around the world, as well as to propose and develop public policies on space security, natural resource monitoring projects, agriculture, infrastructure, among others, through satellite applications through international cooperation. He is a permanent member of DELEGAMEX to represent Mexico in the Commission for the Use of Outer Space for Peaceful Purposes (COPUOS), as well as participating in different national and international forums.



Presenter:
Hebe Romero
Paraguay Space Agency

Lawyer. Public Notary. Master degree in Public Administration, and Aerospace Strategy and Policy. Graduate and Postgraduate Professor of the Aeronautical and Space Law, Public International Law, and Energy Law. Attorney of Administración Nacional de Electricidad (ANDE) of Paraguay. Member of the Ibero-American Institute of Aeronautical Law and Space and Commercial Aviation. National Point Contact of ReLaCa Space. General Director Legal and International Affairs of the Paraguayan Space Agency (AEP). Arbitrator of Specialized Panel of Arbitrators established pursuant to the optional rules arbitration of disputes relating to outer space activities. Member of the Advisory Board of the SGAC (2022-2023). Co-author of books: 1. Space law. 2. Compendium of Aeronautical and Space Law.



Presentation Title:
Management of Space Exploration, Development and Scientific and Technological Cooperation in Space



Presentation Title:
Strategic Alliances - Key to bridging the Space Divide



Session 2 (2): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Helene de Boissezon
French Space Agency

Helene de Boissezon studied agronomy and initially worked for an EO consultancy company. She joined the French Space Agency CNES in 2000, conducting R&D studies to make EO data more accessible to scientists and practitioners. In 2008, she became head of the EO Analysis and Products Department, aiming to make EO systems closer to operational users and decision makers. Since 2016, she is part of "Connect by CNES" programme, in the Strategy Directorate of CNES. She is responsible for fostering services for public authorities, and specifically for the Disaster Risk Management and Disaster Risk Reduction community. H el ene has been active in CEOS WG Disasters for 2016, with Recovery Observatory leadership (RO Pilot after Hurricane Matthew in Haiti and currently RO Demonstrators: Lebanon blazes, Eta/Iota hurricanes in Central America, Earthquake in Haiti) in close coordination with the World Bank, UNDP and UE. Since end of 2021 she leads the WG Disasters, with CONAE (Laura Frulla) as co-lead.



Presentation Title:
Recovery Observatory Demonstrator -
CEOS-led initiative with World Bank, UNDP and
the EU/FPI



Co-Presenter*:
Andrew Eddy
Athena Global

Andrew Eddy joined Athena Global in 2001 as a founding partner. He has worked extensively in both the public and private space field. At the Canadian Space Agency, he served as Secretary to Canada's National Space Plan Task Force and also created the Agency's ISS Commercialization Office. Andrew left the CSA to join MirCorp, a high-profile international space start-up, as Senior Vice-President and Acting General Counsel. With Athena Global, Andrew's mandates have covered a wide array, including space sector strategic planning, environmental and security issues, research and analysis. He was the lead author of the 1st edition of the Athena Global Earth Observation Guide. He designed and led the implementation of the National Environmental Information System of Haiti for UN Environment, and designed the national Environmental Information of Iraq as well. He has previously worked for the Canadian International Development Agency and the International Assembly of the Francophonie. Andrew is a graduate of the Institut d' tudes politiques de Paris and McGill University, where he studied economics and law.

*This Presenter is a co-presenter with Helene de Boissezon for the presentation "Recovery Observatory Demonstrator"



Session 2 (2): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Julie Ann Banatao
Philippine Space Agency

Dr. Julie Ann Banatao is currently the Chief Science Research Specialist of the Philippine Space Agency's Spacecraft Electrical and Computing Systems Development Division. She is also the Systems Engineer and technical lead of some of the satellite development projects in PhilSA such as a 3U cubesatellite being developed with Philippine industry partners and the MULA satellite which is developed with a foreign industry partner.

She has a Doctor of Philosophy in Aerospace Engineering from Tohoku University, Japan, and a Bachelor of Science in Electronics and Communications Engineering from the University of the Philippines Diliman. Prior to her employment with PhilSA, she was a satellite development and operations engineer involved in the development of the bus system for the microsatellite Diwata-2.



Presentation Title:
Jumpstarting the Philippines' Space Activities Through International Cooperation



Presenter:
Somala Mohammed
Egyptian Space Agency

Somaia Mohamed Mahmoud received her B.Sc., M.Sc., Ph.D in Electronics and Communication Engineering from Cairo University in 2002, 2009, and 2016, respectively. She is currently a head of Communication systems design Dept. in Egyptian Space Agency. She has taught at Cairo University, MSA University in Cairo, Queens University (Canada). Dr. Somaia worked as Hardware designer at Egyptian Space Program (2004-2009), Lecturer Assistance and lecturer at MSA university (2009-2018), Visiting Researcher at Queens university(Canada, 2014-2015), Communication system Engineer(2015-2019) at Egyptian space Agency. Dr. Somaia's research interests include Nano-satellite technology, Satellite communication systems, Digital signal processing, Embedded system, and Computer Vision.



Presentation Title:
Activities of the Egyptian Space Agency





Session 2 (2): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:

Ismoil Rasulov

Space Research & Technology Agency
(Uzbekistan)

Ismoil Rasulov was born in Tashkent, Uzbekistan in 1995 and graduated from Tashkent University of Information Technologies in 2017. He started his career at Scientific-technical and marketing research center "UNICON.UZ" in 2017. In 2020-2021 he joined International Relations Team of the Ministry for Development of Information Technology and Communications of the Republic of Uzbekistan. From February 2021 he is working as the Head of Department for Coordination of International Cooperation at the Space Research and Technology Agency under the Cabinet of Ministers of the Republic of Uzbekistan.

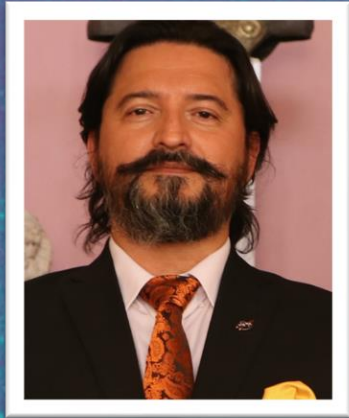


Presentation Title:

**Activities of the Space Research and
Technology Agency**



Session 2 (3): Access to Enablers



Chair:
Alejandro Roman
Chair, IAF ACDCEC



Rapporteur:
Giovanna Estefania Ramirez Ruiz
Aerospace and Electronic Systems
Society, Colombia



Presenter:
JR Littlejohn
State Department, USA



Presenter:
Maria Gabriella Sarah
European Space Agency



Presenter:
Julien Lapie
Agency for Air Navigation
safety in Africa & Madagascar



Presenter:
Jeanne Holm
City of Los Angeles



Presenter:
Hamza Hameed
SGAC



Presenter:
Nicolas Peter
International Space University



Presenter:
Danielle Wood
Massachusetts Institute of
Technology



Presenter:
Rei Kawashima
UNISEC Global



Presenter:
Janine Geijsen
SPACE Buzz



Session 2 (3): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Chair:
Alejandro Roman
Chair, IAF - Committee on
Developing Countries and Emerging
Communities (ACDCEC)

Computer Programmer and Bachelor of Systems Analysis by the Polytechnic Faculty of the National University of Asunción with specializations and courses in prestigious Universities like Oxford, MIT, Harvard, and others in technology, education, aviation systems, and Space. He Studied Civil Aviation Administration at the Singapore Civil Aviation Academy, has a master's in business administration (MBA), is a Specialist in Higher Education, is also a Specialist in Geographic Information Systems and Remote Sensing is currently pursuing a Doctorate in Education Sciences. With more than 25 years of professional experience in the public and private sector, mainly in Information Technology, Education, Civil Aviation, and Space. He served as IT Manager of the Civil Aviation Authority in Paraguay for more than ten years. Prof. Román was the Academic Coordinator of the three careers of Computer and Systems Engineering at the Faculty of Engineering of the University of the Integration of the Americas (UNIDA) for five years, Coordinator of the ICT Observatory of the Ministry of Technology of Paraguay. Member of the Spanish Network of Planetology and Astrobiology (REDESPA). Also Elected as Academician Full-Member of the International Academy of Astronautics (IAA), Member of the Editorial Advisory Board of the Southern Space Studies series published by Springer, Is also a Member of the International Astronautical Federation (IAF) where actively participates in the Committees of Education and Outreach, Near-Earth Objects (NEO) and chairing the Developing and Emerging Countries committee. He is the Alternate Director for Paraguay and a Member of the Latin American and Caribbean Space Network (ReLaCa) board. Member of the Planetary Society, He has given conferences and talks worldwide at several prestigious universities such as MIT, Kyushu Institute of Technology (Japan), and in Taiwan, France, Austria, England, Peru, Argentina, and others, with works presented at various international Congresses. He has received several recognitions and awards, such as the 2021 Technology Excellence Award in India, the Extraordinary Merit Award from the International Center for Land Policy Studies and Training (ICLPST) in Taiwan, and the Partnership Award from the Pacific Disaster Center in Hawaii. He currently serves as General Director of Execution and Aerospace Development of the Paraguayan Space Agency, was recently appointed as a GEO Principal for Paraguay, and as an Undergraduate and Graduate Professor at the University of the Integration of the Americas - UNIDA.



Presenter:
JR Littlejohn
State Department, USA

Jennifer "J.R." Littlejohn is the Principal Deputy Assistant Secretary in the Bureau of Oceans and International Environmental and Scientific Affairs. She is a career member of the Senior Foreign Service, most recently serving as the Deputy Director of the Secretary of State's Policy Planning Staff. Prior to that, she was the Deputy Chief of Mission at the U.S. Embassy in Skopje, North Macedonia.

In Washington, Ms. Littlejohn has served as the Director for Central and Northern European Affairs on the National Security Council staff at the White House; Director for Policy Planning and Public Diplomacy in the Bureau of Democracy, Human Rights and Labor; Senior Advisor on the Secretary of State's Executive Staff; and Special Assistant to the Under Secretary of State for Political Affairs. Overseas, she has served as the Deputy Chief of Mission at the U.S. Embassy in Dili, Timor-Leste and the Executive Secretary at the U.S. Embassy in Kabul, Afghanistan, in addition to assignments in Brazil, Thailand, and Germany.

Ms. Littlejohn earned a Master of Science in National Resource Strategy from the National Defense University; a Master of International Affairs from Columbia University; and a Bachelor of Arts in Political Science from Morgan State University. She has studied German, Macedonian, Portuguese, and Thai, and is the recipient of several State Department Superior Honor Awards. Prior to joining the Foreign Service, she was a Robert Bosch Foundation Fellow in Berlin, Germany.

Presentation Title:
Space Diplomacy: A U.S. Perspective



Session 2 (3): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Maria Gabriella Sarah
European Space Agency

Maria-Gabriella Sarah has a MSc in electrical engineering and has been working in American Consultancies before joining ESA in 2002.

After a start in the Science Directorate, as operations engineer, she held the position of Agency Risk Coordinator (CRO) implementing at Corporate level in the Strategic Department the Agency Risk Management framework ESA is using today, creating and chairing networks of Risk Management practitioners, with and outside ESA.

She is now in charge of Partnerships with non space businesses. In that context she has supported the setting up of the Sustainable development Goals catalogue ESA has put in place to gather all space projects helping achieve the 17 United Nations SDG's.



Presentation Title:
ESA SDG catalogue: space at the service of humankind



Presenter:
Julien Lapie
Agency for Air Navigation safety in Africa & Madagascar

Julien Lapie is a civil aviation engineer, graduated from the French Civil Aviation University. He currently serves at ASECNA as Advisor to the Director of Air Navigation Services and as Manager of the ANGA programme. He is member of the ICAO Navigation Systems Panel.



Presentation Title:
EGNOS SBAS Use Cases: the ANGA programme





Session 2 (3): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Jeanne Holm
City of Los Angeles

As a leader in open data, education, and civic innovation, Jeanne Holm empowers people to discover new knowledge and collaborate to improve life on Earth and beyond. Jeanne Holm is the Deputy Mayor for Budget and Innovation of the City of Los Angeles, addressing issues of technology, equity, digital inclusion, open data, and transparency. She connects public-private partners for innovations ranging from improving digital equity to using data science for environmental justice to reimagining government work. She founded the Data Science Federation partnering universities and cities to create innovative solutions such as using artificial intelligence for traffic safety and machine learning to improve air quality. She was formerly the Evangelist for open data for the White House under President Obama, the leader for Africa open data for the World Bank, and the Chief Knowledge Architect at NASA. Winner of numerous awards, she has published more than 130 publications. She is a Distinguished Instructor at UCLA, a Trustee of Claremont Graduate University, a Fellow of the United Nations International Academy of Astronautics, and an advisor to the U.N.'s Sustainable Development Solutions Network. She leads a startup that promotes equity, education, and social justice through technology and education programs for innovators in Africa and globally.



Presentation Title:
Space Open Data, Expertise and Capacity Building as a Game Change for Decision Makers*

*The Presenter is not included in the final agenda as she was not able to present at the event.



Presenter:
Hamza Hameed
Space Generation Advisory Council (SGAC)

Hamza Hameed is a Pakistani lawyer who is Co-Chair of the Space Generation Advisory Council (SGAC) for 2022-2024. Hamza also works as a Legal Consultant at the International Institute for the Unification of Private Law (UNIDROIT) in Rome, Italy. He holds an Advanced Master's LLM Degree in Air and Space Law from Leiden University and an LLB from the University of London. His work mostly involves the development and promotion of international instruments in the areas of spacecraft financing, secured transactions law, and law & technology. At UNIDROIT, he is responsible for the Space Protocol of the Cape Town Convention, and the UNIDROIT project on Digital Assets and Private Law. He also manages the activities of the Cape Town Convention Academic Project and the UNIDROIT Foundation. He is a member of the International Institute of Space Law (IISL) and INSOL International.



Presentation Title:
The role of the youth in bridging the space divide: SGAC as an enabler for access to space for all





Session 2 (3): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter: **Nicolas Peter** International Space University

Nicolas Peter is Professor of practice in Space Policy and International Affairs at the International Space University (ISU) and is the ISU Resident Faculty responsible for Space Policy, Economics, and Law (PEL) education and activities. He is also the head of the "Space Policy and Entrepreneurship lab" at ISU that is a dedicated research laboratory addressing the issues and trends in the domains of space policy and the space economy, including New Space worldwide. He is also involved in the management of the ISU incubator dedicated to space. Prof Peter is seconded by the European Space Agency (ESA).

Prior to his appointment at ISU, Mr Peter has been the Head of International Affairs at the German Aerospace Center (DLR) overseeing all international activities of DLR and developed the first DLR internationalisation strategy. Nicolas Peter has also been working at the European Commission supporting among other the 2016 EC Space Strategy development. He has also been working at ESA in the Director General's Cabinet and Strategy department, as well as the European Space Policy Institute (ESPI) and the George Washington University's (GWU) Space Policy Institute and a Research Fellow at the X PRIZE Foundation.

Mr Peter has 20+ years of international experience in space policy on 4 continents and 8 countries. He has published over 100 reports, book chapters and articles in peer-reviewed journals, and presented at international conferences related to space activities. He has also co-edited three books on space affairs and is a regular peer-reviewer for the Journals Space Policy and Acta Astronautica. He is also Board of Director of the Women in Aerospace Europe (WIA-E) in charge of corporate relations and partnerships and an Honorary Board Member of the Space Generation Advisory Council (SGAC) and a winner of the inaugural IAF Young Space Leader award.

Presentation Title:
The role of space sustainability for the space economy



Presenter: **Danielle Wood** Massachusetts Institute of Technology

Professor Danielle Wood serves as an Assistant Professor in the Program in Media Arts & Sciences and holds a joint appointment in the Department of Aeronautics & Astronautics at the Massachusetts Institute of Technology. Professor Wood serves at MIT as the Faculty Lead for African and African Diaspora Studies. Within the Media Lab, Prof. Wood leads the Space Enabled Research Group which seeks to advance justice in Earth's complex systems using designs enabled by space. The research of Space Enabled designs systems that use tools from space to promote sustainability on Earth and designs approaches to support sustainability in Space. Prof. Wood's background includes satellite design, earth science applications, systems engineering, and technology policy. In her research, Prof. Wood applies these skills to design innovative systems that harness space technology to address development challenges around the world. Prior to serving as faculty at MIT, Professor Wood held positions at NASA Headquarters, NASA Goddard Space Flight Center, Aerospace Corporation, Johns Hopkins University, and the United Nations Office of Outer Space Affairs. Prof. Wood studied at the Massachusetts Institute of Technology, where she earned a PhD in engineering systems, SM in aeronautics and astronautics, SM in technology policy, and SB in aerospace engineering.

Presentation Title:
The Environment-Vulnerability-Decision-Technology (EVDT) Integrated Modeling framework





Session 2 (3): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Rei Kawashima
UNISEC Global

Rei Kawashima has served University Space Engineering Consortium (UNISEC), which she co-founded in 2002. She was appointed Secretary-General at the time of the establishment of UNISEC-Global, which became a permanent observer of the UNCOPUOS in 2017.



Presentation Title:
Introduction to the University Space Engineering Consortium (UNISEC)



Presenter:
Janine Geijsen
Space Buzz



Presentation Title:
An immersive outreach & education program inspiring generations

Session 2 (4): Access to Enablers



Chair:
Alejandro Roman
Chair, IAF ACDCEC



Rapporteur:
Giovanna Estefania Ramirez Ruiz
Aerospace and Electronic Systems
Society, Colombia



Presenter:
Jorge Del Rio Vera
UNOOSA



Presenter:
Abhas Maskey
Antarikchya Pratisthan Nepal
(Nepal Space Foundation)



Presenter:
Remco Timmermans
Spaceside OU



Session 2 (4): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:

Jorge Del Rio Vera Scientific Affairs Officer, UNOOSA

Dr. Jorge Del Rio Vera is a telecommunication Engineer and with PhD in Earth observation. He started his career in the Group of Physical Oceanography of the University of Malaga where he used remote sensing to study the Mediterranean Sea, during this period he had research stays in the Colorado State University, the University of British Columbia and NASA Goddard Space Flight Centre. After that, he joined the European Space Agency (ESA), working on Envisat, the largest Earth observation satellite ever built, and Copernicus, the biggest European Earth observation programme. He has also worked for the NATO Underwater Research Centre applying space knowledge to underwater systems and the European Maritime Safety Agency using satellites to catch polluters red-handed. After that, he moved to the European Global Navigation Satellite Systems Agency, now EUSPA, where he worked setting up the operations of the Galileo Security Monitoring Centre, providing cybersecurity and governmental Galileo services until he joined the Office for Outer Space Affairs in the United Nations (UNOOSA), as a scientific affairs officer. In UNOOSA, among other activities, he coordinates Access to Space for All, a joint initiative between UNOOSA and space agencies, research institutions and industry aimed at providing information and developing technical know-how, engineering processes and infrastructure of the United Nations Member States in the areas of hypergravity and microgravity, satellite development and space exploration. Dr. Del Rio Vera is also the chair of Working Group on Capacity Building and Data Democracy of the Committee on Earth Observation Satellites.

Presentation Title:

Access to Space for All



Presenter:

Abhas Maskey Antarikchya Pratisthan Nepal (Nepal Space Foundation)

Abhas Maskey is the founder of Antarikchya Pratisthan Nepal, a non-profit organization working towards building next generation space applications systems in Nepal. He led Kyutech's BIRDS-3 satellite project which also built the first satellite for Nepal, NepaliSat-1.



Presentation Title:

Building Nepal's Space Infrastructure and Community from Ground-Up through a Structured Public-Private Partnership Approach





Session 2 (4): Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs

INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter: **Remco Timmermans** Spaceside OU

Remco Timmermans is an independent online marketing and social media specialist for the international space sector. He is a well-known space influencer and mentor to aspiring space communicators. He is the founder of his own space marketing agency Spaceside OU, a faculty member of the International Space University and a member of the IAF Space Education and Outreach Committee.

Remco designs and runs creative online campaigns for a variety of space organisations, both in academic, government and commercial space. He is a founding member of the new Space Communications Alliance, that brings together key media, PR and communications organisations in the space industry.

Remco has an undergraduate degree in business administration and mechanical engineering, a master's degree in business sciences, and he is a graduate of the International Space University Space Studies Program, where he also periodically teaches space management and business, with an emphasis on marketing and communication.

Remco is the chief editor of the Groundstation.Space website, where he writes about Earth Observation and space data funding and business startup opportunities.

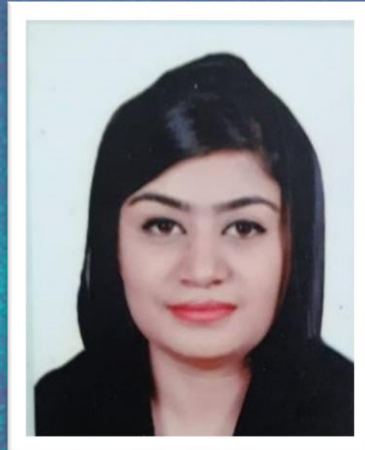


Presentation Title: **The importance of inclusive outreach**

Session 3a: Science, Technology and Innovation from Hypergravity and Microgravity Experimentation



Chair:
Abhas Maskey
Antarikhya Pratishthan Nepal
(Nepal Space Foundation)



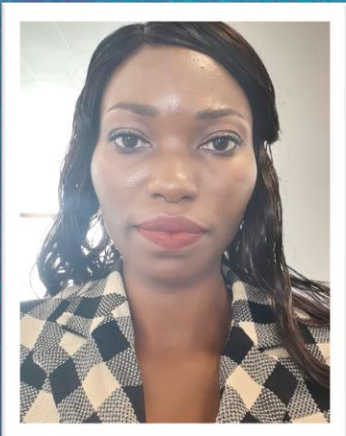
Rapporteur:
Madiha Rasheed
Beijing Institute of Technology



Presenter:
Scott Ritter
German Aerospace Center (DLR)



Presenter:
Hosamani Ravikumar
University of Agriculture Sciences



Presenter:
Funmilola Oluwafemi
National Space Research &
Development Agency (Nigeria)



Presenter:
Shrrirup Nambiar
Politecnico de Milano



Presenter:
Dorit Donoviel
Translational Research Institute for Space
Health, Baylor College of Medicine



Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Rapporteur:
Madiha Rasheed
Beijing Institute of Technology

Dr. Madiha Rasheed has recently completed her PhD in Biomedical engineering, major in Astrobiology from Beijing Institute of Technology China. During her PhD, she has worked on miRNAs-based biomarkers and their functional characterization in the space induced depressive behavior in the depressive rats under simulated complex space environment model. She has identified core miRNAs-based biomarkers that can be utilized for future space medicines for neuropsychiatric disorders.



Presenter:
Scott Ritter
German Aerospace Center (DLR)

Scott Ritter is a researcher at the German Aerospace Center (DLR) Institute of Aerospace Medicine, in Cologne Germany. With his team, he developed a payload to monitor the eyes of crew members aboard the International Space Station (ISS).



Presentation Title:
Spaceflight Associated Neuro-ocular Syndrome (SANS) : Eye Monitoring for Space and the Sustainable Development Goals (SDGs)





Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:

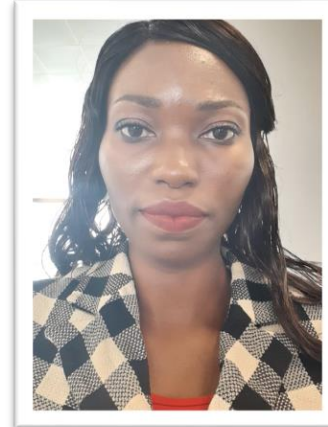


Presenter:
Hosamani Ravikumar
University of Agriculture Sciences
(India)

Dr. Ravikumar Hosamani is an Assistant Professor at the University of Agricultural Sciences (UAS), Dharwad, located in the southern state of Karnataka, India. Previously, for close to seven years, he worked as a NASA Postdoctoral Program (NPP) Fellow and Research Assistant Professor at NASA Ames Research Center, Moffett Field, California, USA. At NASA Ames, he was part of the science team that flew multiple fruit fly missions to the International Space Station (ISS) between 2011 to 2018. At present, he is a joint Principal Investigator for the fruit fly mission to low earth orbit on the Indian Space Research Organization's (ISRO) Gaganyaan mission. On the ground, his lab is exploring the possibility of the utility of altered gravity models for improving terrestrial agriculture.



Presentation Title:
Utility of hypergravity as a novel tool in inducing reliable phenotype/s for improving crop plants - A relevance to terrestrial agriculture



Presenter:
Funmilola Oluwafemi
National Space Research &
Development Agency (Nigeria)

Funmilola Oluwafemi is a bio-scientist as an Assistant Chief Scientific Officer with the Space Agency of Nigeria - National Space Research and Development Agency (NASRDA) at the Space Life Sciences Division. She is the Principal Investigator and leading expert of the Microgravity Research. She has had collaboration in research and education with United Nations Office for Outer Space Affairs (UNOOSA) in the Zero-Gravity Instrument Project. She has several academic and moral awards with publications in several reputable scientific journals and magazines. She is a winner of the: 2022 Zonta International Amelia Earhart Fellowship; 2021 African-German Network of Excellence in Science, Program Advocating Women in Science (AGNES-PAWS) grant winner; and 2021 United Nations Educational Scientific and Cultural Organization - International Centre for Biotechnology (UNESCO-ICB) PhD Scholarship Award: The Maiden Edition, Nsukka, Nigeria. She won Round4 Climate, Food and Farming Global-Alliance on Agricultural Greenhouse-Gases Development Scholarships (CLIFF-GRADS) program on food-security; and was a mentor in "The 1000Girls, 1000Futures" program to engage young-women interested in STEM advance their pursuit of STEM careers as recruited by Global STEM Alliance for The New York Academy of Sciences. Funmilola is a Space Generation Advisory Council (SGAC) Alumni; having diversity of experience in STEM and a working knowledge with youth, influencing them for positive-change and impart. Sequel to these, in-line with her scientific research ambitions, core to her career path, with wealth of experiences, she engages in knowledge transfer to her sub-ordinates, colleagues, students/interns; and her joy would be seeing them successful advancing in this field and developing curricula to train others.



Presentation Title:
Microgravity Ground Facility Experimentation on Root Developments and Biochemical Characterization of Selected Vital Crops



Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Shrrirup Nambiar
Politecnico de Milano

Shrrirup Nambiar is currently pursuing his Doctoral Research in Aerospace Engineering From Politecnico di Torino, Italy. He has obtained his Bachelors and Masters in Aerospace Engineering, specializing in Guided Missiles. Also, he has obtained Diploma in Robotics and has an Advanced Masters in Space Exploration Systems. He has been part of International Space University (ISU) since 2015 and will be sharing his ISU experience through this presentation.



Presentation Title:
Space Studies Program on Microgravity Supporting the Advancement of Technology in the fields of Space Pharma and Space Medicine



Presenter:
Dorit Donoviel
Translational Research Institute for Space Health, Baylor College of Medicine

As Executive Director for the Translational Research Institute for Space Health (TRISH), Dorit Donoviel, Ph.D., leads a \$0.25B NASA-funded innovation R&D program that finds, funds, and facilitates disruptive human health and performance solutions for astronauts traveling in deep space. In her previous role as deputy chief scientist of the National Space Biomedical Research Institute (NSBRI), Dr. Donoviel led both domestic and international research programs that bridged academic, industry, and government resources to deliver fast and cost-effective tangible results. Dr. Donoviel is an Associate Professor in the Department of Pharmacology and Chemical Biology and the Center for Space Medicine at Baylor College of Medicine (BCM) where she lectures and mentors graduate and medical students. She was recently named a BCM Woman of Excellence, was a long-time Faculty Senator, and was named a Health Policy Scholar for the Center for Medical Ethics and Health Policy at BCM. Dr. Donoviel received several awards from the NASA Human Research Program and is the recipient of the NSBRI Pioneer Award. Dr. Donoviel continues to author science thought leadership articles in academic journals as well as in the popular press.

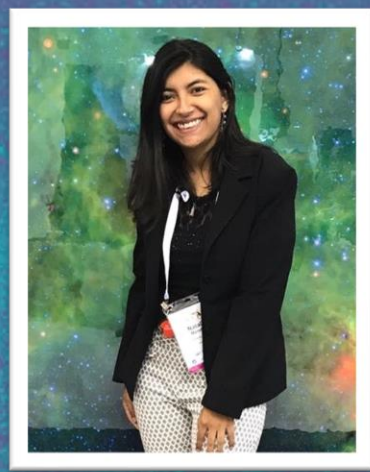


Presentation Title:
Human Commercial Space Activities provide an Opportunity Platform for Human Health Discoveries

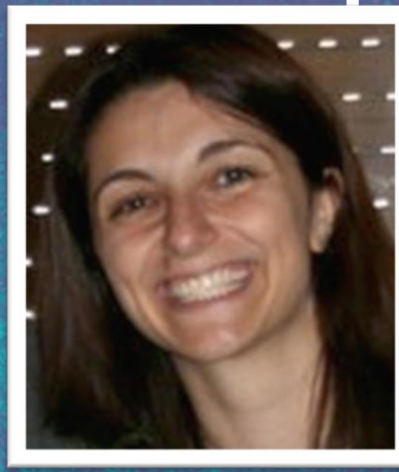
Session 3b: Science, Technology and Innovation from Satellite Development



Chair:
Umamaheswaran Raman
ISRO



Rapporteur:
Nataly Mendez
Asociacion Astronautica Colombiana



Presenter:
Chantal Cappelletti
University of Nottingham



Presenter:
Hana Aouinet
Private High School of Engineering &
Applied Technology



Presenter:
Tetsuhito Fuse
Kyushu Institute of Technology



Presenter:
Yaqoob Alqassab
National Space Science Agency
(Bahrain)



Presenter:
Cecilia Marsicovetere
Universidad del Valle de
Guatemala



Presenter:
Adrian Salces
Philippines Space Agency



Presenter:
Maximiliano Pisano
National Commission on Space
Activities (Argentina)



Session 3b: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Chair:
Umamaheswaran Raman
Indian Space Research Organisation
(ISRO)

Dr. Umamaheswaran R, born on May 20, 1963, completed his B-Tech in Electronics & Communication Engineering from College of Engineering, Trivandrum and Masters in Software System from BITS, Pilani and done his Ph.D in Electronics & Communication from National Institute of Technology, Trichi, India. He also holds a Master's degree in Russian Language from Kerala University. His interests include launch vehicle technology, programme management, science and technology related policies. He is a domain expert in the field of launch vehicle system electrical integration, checkout, ground station, avionics, system engineering as well as in space policy planning.

Dr. Umamaheswaran is with Indian Space Research Organisation (ISRO) for over a period of nearly 35 years.

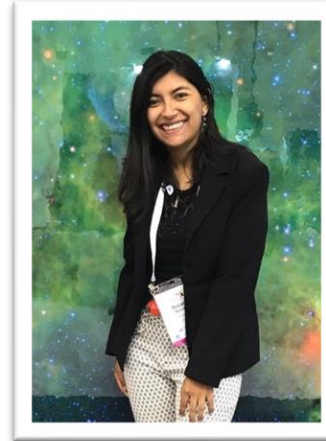
Dr. Umamaheswaran has assumed charge as Director of Human Space Flight Centre, Bangalore on 03rd March 2022.

He has immensely contributed to ISRO's international cooperation by serving as the co-chair of Joint Working Groups with many space agencies ROSCOSMOS, JAXA, ESA, NSSA, CRTS&CRERS, ASAL, CONAE, MDAI and EgSA.

He has been elected as the chair of Working Group on Long-Term Sustainability of Space Activities in UNCOPUOS Scientific and Technical Subcommittee. As LTS chair, he is working with UN member states for bringing out international guidelines for the LTS of outer space activities.

He is also currently Member of Board of Trustees of International Academy of Astronautics and member of IN-SPACE Board.

Dr. Umamaheswaran is a member of several international and national bodies of engineering and science, including Member for Section 2 on Engineering Sciences of IAA & Member of the Committee on Space Traffic Management of IAA.



Rapporteur:
Natally Mendez
Asociacion Astronautica Colombiana

Natally Mendez is an aerospace engineer and director/co-founder of Astronautical Colombian association



Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs

INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Chantal Cappelletti
University of Nottingham

Dr. Chantal Cappelletti is currently an Assistant Professor at University of Nottingham (UK), where she is affiliated with the Nottingham Geospatial Institute. Previously, she was an Assistant Professor at the University of Brasilia (Brazil) and a visiting researcher at Morehead State University (USA). She is the co-founder of the Italian company GAUSS Srl. She has led 6 satellite projects in Italy (UNISAT program and others) and in Brazil (SERPENS, TuPOD). Actually she is the leader of the Space Systems and CubeSat program at University of Nottingham (NottSpace) with several small satellite projects and international cooperation on going. She is member of the International Academy of Astronautics and editor of the "CubeSat Handbook: from Mission Design to Operations".



Presentation Title:
State of Art of Small Satellites Systems, Missions and Applications



Presenter:
Hana Aouinet
Private High School of Engineering & Applied Technology

Dr. Hana received her Mechanical Engineering diploma in 2010 and received her Master degree in Numerical Modelling in 2011 from the National Engineering School of Tunis (ENIT). In 2016, Dr. Hana have gone her PhD in Fluid Mechanics from National Institute of Applied Sciences of Toulouse (INSA) and second PhD in Hydraulic Engineering from (ENIT) and she was assigned to Espita as a teacher and head of the electromechanical engineering department. In 2020, Doctor Hana was promoted and became the General Director of the engineering school Espita. In 2021, Dr Hana became the Director of the modeling and numerical engineering research laboratory. Dr. Hana has participated in several conferences related to the development of the satellite. She gives great importance to aerospace engineering and in 2022 she founded the first center in Tunisia (Aerospace, AI and Digital center) attached to ESPITA. Dr. Hana is the project Manager of Tunsat-1, awardee of KiboCUBE 's 6th Round organized by JAXA and UNOOSA. Tunsat-1 will be the first academic satellite in Tunisia.



Presentation Title:
The First Tunisian Student Satellite



Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Tetsuhito Fuse
Kyushu Institute of Technology

Tetsuhito Fuse is an engineer at Japan Aerospace Exploration Agency (JAXA) from 2004 to 2022. He worked at satellite operation and network system center and International Space Station (ISS) Kibo utilization center as a system engineer. After working at management department at head quarter (HQ) of JAXA, he started an open-innovation activity which is called Space Exploration Innovation Hub Center and designed and promoted its system and developed open-innovation scheme. He began to work as associate professor at Kyushu Institute of Technology (Kyutech) in the Laboratory of Lean Satellite Enterprises and In-Orbit Experiments (LaSEINE) and is coordinating collaborative activities focusing on nano-satellite technologies with international and domestic partners.



Presentation Title:
Open-Sourcing of CubeSat Bus for Capacity Building aimed to Acquire Original Space Development Capability



Presenter:
Yaqoob Alqassab
National Space Science Agency
(Bahrain)

Yaqoob Alqassab is a senior engineer at the NSSA, with a master's degree in Mechanical Engineering with Space System Technology from Khalifa University and a bachelor's degree in Mechanical Engineering from the University of Bahrain. Developed the first Bahraini software in space which was related to the Attitude Determination and Control Subsystem (ADCS). Specialized in satellite development engineering, satellite ADCS programming, satellite structural analysis, satellite system analysis, satellite mission analysis and satellite thermal analysis. Worked on many satellites, namely Light -1: a 3U CubeSat to detect Terrestrial Gamma-ray Flashes, DhabiSat: a 2U CubeSat to test novel ADCS algorithms, MYSAT-1: a 1U educational CubeSat and its purpose is to test new battery technology and take space images for agriculture applications, MeznSat: a 3U CubeSat used to detect greenhouse gasses such as CH4 and CO2. Published 9 research papers in the field of space system technology. Won the best software idea in the code in space competition organized by orbital space.



Presentation Title:
NSSA Aman Payload





Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Cecilia Marsicovetere
Universidad del Valle de Guatemala

Cecilia Marsicovetere was born on November 27, 1995, and she is a mechatronics engineer graduated from Universidad del Valle de Guatemala (UVG) in 2019 with Magna Cum Laude honors. She wished her whole life to create things and help other people. She found the best avenue to do both in engineering, which can be a great motor for social development. She was a habitat research fellow for Engineering For Change in 2018, where she learned a lot about using engineering for the benefit of underserved communities. From 2017 to 2019, she was part of the team that made Quetzal-1, the first Guatemalan satellite. She led the Electrical Power Subsystem, as well as helping in other areas in testing and documenting. She's given conferences and workshops to thousands of students about Quetzal-1 and Women in Engineering, hoping to inspire youth to follow their dreams, especially in STEM. Over the years, she has worked as a research and development engineer, data scientist, and software developer. She currently works at UVG, overseeing the makerspace D-HIVE. In her free time, Cecilia enjoys reading and drawing.

Presentation Title:
**Promoting quality education through
CubeSat Quetzal-1, the first Guatemalan
CubeSat**



Presenter:
Adrian Salces
Philippines Space Agency

Adrian C. Salces currently works as a Supervising Science Research Specialist of the Philippine Space Agency (PhilSA)'s Spacecraft Payload and Communications Systems Development Division, where he is involved in the agency's small satellite development projects. He obtained his Doctor of Philosophy in Engineering (Space Engineering) degree from the Kyushu Institute of Technology (Kyutech), Japan in 2020. While studying at Kyutech, he was part of the multinational BIRDS-2 CubeSat project team that collaboratively designed, developed, launched and operated the respective CubeSats of the participating countries, namely the Philippines, Bhutan and Malaysia. Prior to Kyutech, he had completed his Bachelor of Science in Electronics and Communications Engineering (2013) and Master of Science in Electrical Engineering (2016) at the University of the Philippines-Diliman.

Presentation Title:
**CubeSat as a Platform for space Engineering
Education and Training in the Philippines**





Session 3a: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:

Maximiliano Pisano

National Commission on Space
Activities (Argentina)

Maximiliano Pisano is Physics Professor. He holds a University Degree in Science Teaching. He is currently a graduate student of the Master Degree in IT applied to Education.

He has worked in the National Commission on Space Activities (Argentina) since 2008.

He is the Director of the Distance Education Area in Mario Gulich Institute of Advanced Studies, and he is the Head of the Massive Training Unit.

Presentation Title:

Satellite technology at school. Awakening vocations



Session 3c: Science, Technology and Innovation from Space Exploration



Chair:

Nomfuneko Majaja

The Department of Trade,
Industry & Competition



Rapporteur:

Lily Rospeen Asongfac

Space Hero Ltd



Presenter:

Christian Lange

ISECG/ Canadian Space Agency



Presenter:

**Rosa Maria Ramirez de
Arellano y Aro**

Mexican Space Agency



Presenter:

Michele Cristina Silva Melo

Brazilian Space Agency



Presenter:

Thomas Weissenberg

European Space Agency



Presenter:

Christa Peters-Lidard

National Aeronautics and
Space Administration



Presenter:

Soyoung Chung

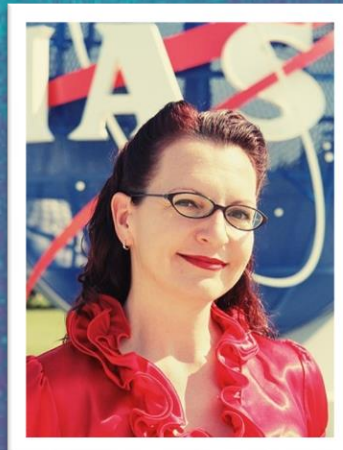
Korea Aerospace Research
Institute



Presenter:

Athena Coustenis

COSPAR



Presenter:

Elaine Seasley

National Aeronautics and
Space Administration



Presenter:

Bernard Foing

ILEWG LUNEX



Presenter:

Mae Jemison

100 Year Starship



Session 3b: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Chair:

Nomfuneko Majaja

The Department of Trade, Industry & Competition, South Africa



Rapporteur:

Lily Rospeen Asongfac
Space Hero Ltd

Lily ASONGFAC is an Electrical and Electronic Engineer and a space enthusiast with skills in designing and analyzing space missions. She has been contributing to the promotion of STEM since her undergraduate days and is now specifically supporting young students to gain interest in the space sector. Lily aspires to become a Space Systems Engineer and wants to use every knowledge gained to push the space sector in Africa forward through her contributions.

Lily is part of the Space Hero team, in charge of strategic partnerships and representing Space Hero in Africa. She is a member of the Space Generation Advisory Council and volunteers with the NPoCs of Cameroon to organize space events. She is an Open Cosmos Academy Ambassador and was a trainer at the space missions design workshop organized by SGAC Cameroon. Lily has an interest in space education for children and is presently working on her Aerospace Baby project, where she carries out outreach events teaching kids about space. Lily is a bureau member at Women in GMES & Africa where she is in charge of youth engagement, to get young girls interested in the space sector, specifically in Earth Observation.



Session 3c: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs

INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter: **Christian Lange** ISECG/ Canadian Space Agency

Dr. Christian Lange is the Director of the Space Exploration Planning, Coordination and Advanced Concepts team of the Canadian Space Agency (CSA), which is responsible for planning Canada's participation in future national and international space exploration missions. This includes directing the development of science, technology, and mission roadmaps; pre-mission advanced concept studies; providing leadership within CSA to the conceptualization and enablement of commercialization related to space exploration; and directing coordinated global exercises with international partners.

Dr. Lange is a CSA representative to the International Space Exploration Coordination Group (ISECG), a voluntary, non-binding coordination forum, presently composed of 27 space agencies. With the transition of the ISECG Chair to the CSA in Sep 2020, he currently leads the ISECG activities.

Christian Lange has been with the Canadian Space Agency since 2001, where he started his career as a post-doctoral fellow and subsequently worked for several years as Robotics Researcher in multibody system dynamics before shifting his focus to strategic planning activities. Christian Lange has master's degree in Mechanical Engineering from the University of Rostock, Germany and a Ph.D. in Mechanical Engineering from the University of Technology, Graz, Austria.



Presentation Title:
**A Perspective on Coordinating Space
Exploration Efforts**



Presenter: **Rosa Maria Ramirez de Arellano y Aro** Mexican Space Agency

She is a lawyer specializing in Public International Law and State Assets in Space Matters (Telecommunications, Broadcasting, Outer Space and Aeronautics). Currently, she is General Coordinator of International Affairs and Security in Space Matters of the Mexican Space Agency.

Member of DELEGAMEX as advisor and Alternate Head in some conferences, forums and global and regional instances related to telecommunications, radio communication, planning of satellite orbits and outer space, before the ITU, ICAO, WMO, CITEL, COPUOS, OECD, WHS. In addition, she was Vice President of the International Federation of Astronautics from 1998 to 2004, Full Member of the International Academy of Astronautics (IAA), Member of the International Institute of Space Law.

In 2018, she was elected president to lead the 61st session of the UN Commission for the Peaceful Uses of Outer Space (COPUOS) and the UNISPACE+50 HIGH-LEVEL SUMMIT, in which a Resolution was adopted to elaborate the Space2030 Agenda and its implementation plan that complement the Sendai Summit on disaster management; the Paris Agreement; and the sustainable development goals (SDGs).

She is a professor at different public and private universities in Mexico, where she teaches Space Law, Broadcasting, Aeronautics and Public Administration, and has various publications on telecommunications, space activities, transportation, and infrastructure, as well as prevent the emergency of new areas of strategic competition and conflict.



Presentation Title:
**Socioeconomic Benefits for the emerging
countries of the exploration and use of the
Moon with a perspective focused on
coordination and cooperation**



Session 3c: Presenter Bios

Co-organizers:



UNITED NATIONS
Office for Outer Space Affairs



INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Michele Cristina Silva Melo
Brazilian Space Agency

PhD in Economics. Science and Technology Analyst from Brazilian Space Agency since 2016. Professor and researcher in space economy.



Presentation Title:
Is it possible socialize the benefits of space exploration? (Policy aspects of space exploration)



Presenter:
Thomas Weissenberg
European Space Agency



Presentation Title:
European Space Agency and Space Exploration





Session 3c: Presenter Bios

Co-organizers:



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INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Christa Peters-Lidard
National Aeronautics and Space Administration

Dr. Christa D. Peters-Lidard is currently the Acting Director in the Sciences and Exploration Directorate at NASA's Goddard Space Flight Center, in Greenbelt, Maryland, USA, where she has been Deputy Director since November 2021. She was Deputy Director for Hydrosphere, Biosphere, and Geophysics in the Earth Sciences Division from 2015-2021, and she was the Acting GSFC Chief Scientist from 2020-2021. She was a Physical Scientist in the Hydrological Sciences Laboratory from 2001-2015, and Lab Chief from 2005-2012. Her research interests include land-atmosphere interactions, soil moisture measurement and modeling, and the application of high-performance computing and communications technologies in Earth system modeling, for which her Land Information System team was awarded the 2005 NASA Software of the Year Award. She is a member of Phi Beta Kappa and was awarded the Committee on Space Research (COSPAR) Scientific Commission A Zeldovich Medal in 2004 and the Arthur S. Flemming Award in 2007. She was elected as an AMS Fellow in 2012 and an AGU Fellow in 2018. She has served as Chief Editor for the American Meteorological Society (AMS) Journal of Hydrometeorology. Her Ph.D. is from the Water Resources Program at Princeton University, and she holds a B.S. in Geophysics from Virginia Tech.



Presentation Title:
Science and Exploration for All: NASA's Transformation to Open Science



Presenter:
Soyoung Chung
Korea Aerospace Research Institute

Ms. Soyoung Chung is a Senior Researcher at the Korea Aerospace Research Institute (KARI). She currently works at KARI's R&D Strategy Office. Previously, she was at KARI's Space Policy Division (2009-2019) and worked with the government offices on national space policy and plans. Throughout her career, Ms. Chung took part in numerous policy studies and strategic planning exercise for Korea's space program. Her current research focuses on space exploration strategy. She is an active member of ISECG and is responsible for overall coordination of KARI's participation to ISECG. She also serves as a delegation to UNCOPUOS. Ms. Chung has academic background in Space Engineering and Science & Technology Policy.



Presentation Title:
Vision & Activities of ISECG's Emerging Space Agencies Working Group





Session 3c: Presenter Bios

Co-organizers:



UNITED NATIONS
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INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:

Athena Coustenis

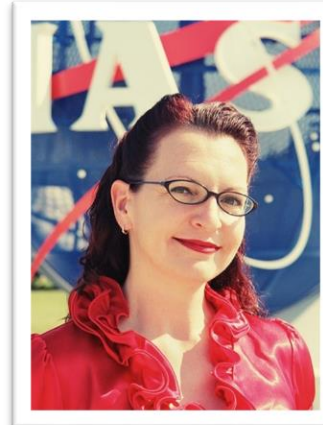
Committee on Space Research
(COSPAR)

Athena Coustenis is Director of Research CNRS at Paris Observatory, specializing in Planetology. She contributes to the development of space missions and analyzes the acquired data to investigate the atmospheres and surfaces of planets, satellites and exoplanets. Among other, she is currently the Chair of the European Space Agency's Human Spaceflight and Exploration Science Advisory Committee (ESA-HESAC) and of the COSPAR Panel on Planetary Protection.



Presentation Title:

Planetary Protection: updates and challenges for a sustainable space exploration



Presenter:

Elaine Seasley

National Aeronautics and Space
Administration

Dr. Elaine Seasley is the Deputy Planetary Protection Officer for NASA and supports NASA's solar system exploration missions by ensuring the science, explored environments, and Earth's biosphere are not compromised by harmful contamination.



Presentation Title:

Planetary Protection: Exploration of the Solar System in Support of Sustainable Space





Session 3c: Presenter Bios

Co-organizers:



UNITED NATIONS
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INTERNATIONAL
ASTRONAUTICAL
FEDERATION

Hosts:



Presenter:
Bernard Foing
ILEWG LUNEX



Presentation Title:
Space Renaissance for the Benefits of All



Presenter:
Mae Jemison
100 Year Starship

Audacious and pioneering, polymath, Dr. Mae Jemison is at the forefront of integrating the physical and social sciences with art and culture to solve problems and foster innovation.

Jemison leads 100 Year Starship, an independent, non-profit global initiative seed funded through a competitive grant from DARPA to ensure the capabilities for human travel to another star within the next 100 years while transforming life on Earth.

Jemison served six years as a NASA astronaut and was the first woman of color in the world to go into space aboard a joint space shuttle mission with the Japanese space agency. Trained as an engineer, social scientist and dancer, Jemison, a medical doctor, was the Area Peace Corps Medical Officer for Sierra Leone and Liberia.

An educator, futurist, and a leading voice for science literacy, social responsibility, and sustainability, Jemison is a member of the National Academies of Medicine, the External Council for the NASA Innovative Advanced Concepts Program and sits on Fortune 500 companies' boards, and the National Women's Hall of Fame. She is a mini lego figure and was first real astronaut to appear on Star Trek: The Next Generation.

As a professor at Dartmouth College, Jemison focused on technologies designs for sustainability for both industrialized and developing nations. She founded two technology companies and the non-profit Dorothy Jemison Foundation for Excellence which designs and implements STEM education experiences impacting thousands of students and hundreds of teachers worldwide.

In September 2017 Jemison spearheaded Look Upä to connect people to space, Earth and each other.



Presentation Title:
No one shows a child the sky





Posters

Co-organizers:



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Hosts:



Session 2: Access to Space Enablers

WORKSHOP: "HOW TO CATALYSE A SPACE INDUSTRY LOCALLY"

DESCRIPTION
The International Space Industry has been piloted to work with stakeholders on the implementation of the first four articles of an action plan for a space sector in the form of a workshop. The workshop will explore the challenges and opportunities of creating a space industry locally in a country that is not traditionally a space power.

WORKSHOP OBJECTIVES
Participants will:
- Gain insight into the current space industry landscape and market opportunities in the New Space Economy
- Have a chance to discuss national and local space industry initiatives
- Identify key enablers and requirements to grow a space industry locally
- Explore opportunities and pathways to participate in a local space ecosystem

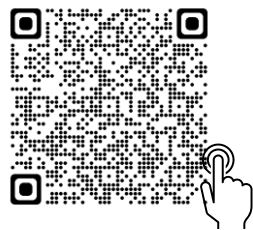
METHODOLOGY
The workshop will be facilitated through a series of presentations from local and international industry and academic experts, followed by a panel discussion. The workshop will be held in a hybrid format, allowing participants to attend in person or online.

DELIVERY
CUSTOMISED 3-4 HOUR WORKSHOP SESSION

CONTACT: info@spacebase.co **WEBSITE:** spacebase.co

Workshop: "How to Catalyse a Space Industry Locally"

Eric Dahlstrom
SpaceBase Limited



Space Outreach & Human Health

Captain Dr. Lisa McNamee
Head of Mission, Space Medicine Ireland
@LisaMcNamee
lmcnamee@fict.ie

Introduction & Background
The health benefits of space are not generally well understood by the general public. However, biological approaches for space flight will be the established and proven delivery of space medicine in increasingly applicable in terrestrial contexts.

- The current of health-related issues of humans, monitoring and clinical based peer evaluation supported by remote expert telemedicine support may be a solution to many challenges of remote care (telemedicine).
- The monitoring of physiological and physical adaptation prior to flight could be adapted for active target patients.
- Real-time monitoring ready to go in space during a COVID-19 outbreak with remote monitoring might have exponentially increased since the start of the COVID-19 pandemic.
- The young generation of health professionals is more challenged for prevention. Monitoring system development of ageing mobility decreased bone density and muscle mass loss. The consequences demand to study these conditions in astronauts from age-related only on Earth and if implemented may reduce frailty and debilitation in older people, leading to extensive cost savings for national health systems.
- These human and health benefits of space are jointly established by both the medical community and the space agencies. There are several strategies that can be adopted to build an understanding about through effective science communication and active campaigns.

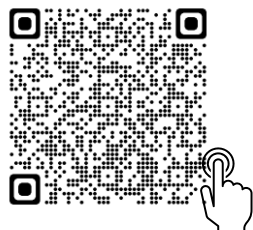
Frailty
Frailty is characterized by the loss of biological reserve used for recovering response to adverse health outcomes. It is a rapidly increasing healthcare burden worldwide and is closely associated with ageing. A 2020 estimate of 300 million ageing 60+ population from all countries and territories, representing 17.8% of the population, found that the global prevalence rate of frailty was 17%. This is an increasing and increasing global prevalence. It is essential to identify the underlying of the human body to investigate. Research from epidemiological studies indicated in elderly care medicine are not always aware of the consequences being subjected for human frailty. These findings and new pathways between frailty and space agencies can only be benefited to both.

Proposed strategies to improve space health awareness amongst frailty

- Building human health awareness communication into the current space agencies
- Increasing links between national health space agencies and space medicine researchers
- Integration of human health into space agencies and space medicine researchers
- Increased United Nations collaboration between terrestrial health care researchers and space medicine
- Creation of a human health and space (H2S) and other research and space organizations
- Inclusion of telemedicine and frailty research in leading frontiers of the space of telemedicine
- Integration of telemedicine and frailty research in current research for geriatrics and health researchers

Space Outreach & Human Health

Lisa McNamee
Space Medicine Ireland



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Janine Geijssen
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World Space Week

Annie Kazarjan
World Space Week Association (WSWA)





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Session 3a: Science, Technology and Innovation from Hypergravity and Microgravity Experimentation



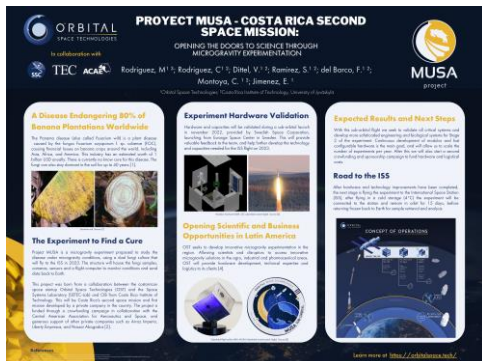
Lost-cost Experiment for microgravity research

José Pedro Ferreira
Space Generation Advisory Council



Impact of MicroRNAs based Biomarkers on the Psychopathologies of Depression under Simulated Space Complex Environmental Model

Madiha Rasheed
Beijing Institute of Technology



Project MUSA - Costa Rica Second Space Mission

Mauricio Ernesto Rodriguez Alas
Orbital Space Technologies





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Session 3b: Science, Technology and Innovation from Satellite Development



29th Workshop on Space Technology for Socio-Economic Benefits: "Access to Space for All: Bridging the Space Divide"

Optical payloads and An innovative deployable hexagonal shape solar panel system for 1U CubeSat

One of the main CubeSat limitations is the available on-board power. The CubeSat performance and the mission scenario opened to these small satellite systems could be greatly enhanced by an increase of the available power: we describe here the design of a solar panel system where the cubic solar array is hexagonal shape inspired from James Webb mirror (fig.1), that can be potentially used on board single (1U), double(2U) and triple (3U) CubeSat. The prototype of the innovative system will be realized for a 1U CubeSat and will be tested. A test-bed for the solar panel deployment testing will be developed, supporting the solar array during deployment reproducing the dynamical situation in orbit.

The process of choosing the best payload (in this case camera (fig.3)) for a cubeSat follows through a section of decision-making. What operations should the camera be able to perform and what should the camera do to reach the goals of the project. Our solution offers 3 sub-cards of size 5x5cm each which are arranged as follows (fig.2).

*Hex-Cam board with the Ra-02 transceiver (Lora 433 Mhz + wifi)

*Nano receiver board with aRP95 transceiver (866 Mhz frequency)

*Esp32 reception/transmission card with the aRP95 transceiver (866 Mhz frequency + wifi)



Optical Payloads and an Innovative Deployable Hexagonal Shape Solar Panel System for 1U CubeSat

Maher Dhahri
Issat Sousse



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OneWeb's low Earth orbit (LEO) constellation model reduces cost structures and gives higher performance capabilities versus other satellite-based broadband services, offering a significant competitive advantage.

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OneWeb is committed to responsible space operations, ensuring that our satellites and ground stations are designed and operated in a way that minimizes their impact on the environment and other space activities.

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Space is the Future for Communications on Earth

Ruth Pritchard-Kelly
OneWeb



29th Workshop on Space Technology for Socio-Economic Benefits: "Access to Space for All: Bridging the Space Divide"

NSSA AMAN PAYLOAD

Satellite systems are vulnerable to hacking due to the lack of security. Thus, having secure communication to protect our satellites and information is crucial due to the importance of space data. Therefore, the Aman payload will provide a very secure connection between the satellite and the ground station. The Payload is a Field Programmable Gate Array (FPGA) based Advanced Encryption Standard (AES) with low complexity and power consumption optimization to encrypt and decrypt data received from the IoT sensors and the ground station.

The payload can receive the uplink and downlink and be used for various types of information exchange, such as data from IoT devices, telemetry data, etc. The FPGA-based Payload will be a technology demonstration payload, aiming to test the optimized reconfigurable cyber-security architecture to all the data encryption for satellite systems and IoT devices that lack security and requires protection for the private and sensitive information from being intercepted and cyber-attacked. The main objective of this Payload is to test this technology in space to be applied for securing IoT devices and space systems.

"AMAN IS THE FIRST BAHRAINI PAYLOAD"

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NSSA Aman payload
Yaqoob Alqassab
National Space Science Agency





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Session 3c: Science, Technology and Innovation from Space Exploration



Analog Astronauts in the COVID-19 Pandemic

Catherine Raisa Kimberly Mandigma

University of the Philippines

&

Gabriele Impresario

Italian Space Agency



Contact us

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