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# **OTHER EVENTS**

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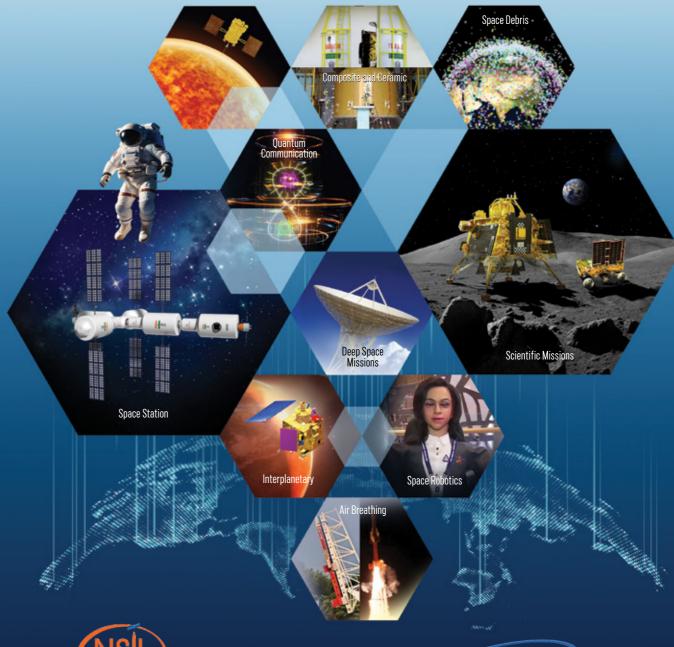
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# **SUBMIT YOUR ABSTRACT BY** NOVEMBER 2024!



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**3** DECEMBER



**1<sup>ST</sup> EUROPEAN INTERSTELLAR** SYMPOSIUM

2 DECEMBER TO **5** DECEMBER

**#LUSpaceWeek** 

# LUXEMBOURG SPACE AGENCY

# SAVE THE DATE + 2 TO 5 DECEMBER 2024



### **WORKSHOP** & SYMPOSIUM

2 DECEMBER TO 3 DECEMBER



#### SPACE FOR INSPIRATION

4 & 5 DECEMBER





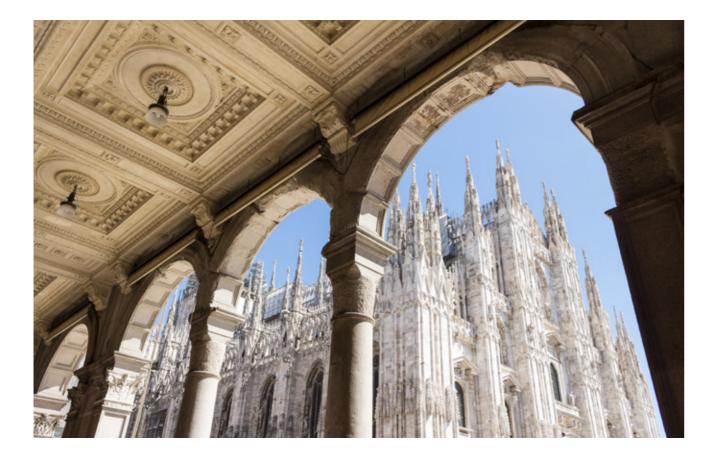




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#### **Floor plans**



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#### **Students and Young Professionals Events** 1

#### 1.1 2024 IPMC Young Professional Workshop

Date:	Sunday 13 October
Time:	09:00 - 16:45
Venue:	Green Hall 2, Level -1, North Wing, MiCo Convention Centre



The IPMC Young Professional Workshop is a one-day event dedicated to YPs, including Team Work, talks by Expert Speakers, and debate in a Plenary Session open to the general IAC audience. These topics are linked to Project and Programme Management, People Management, and Knowledge Management. In particular, topics are chosen among the latest Space Sector trends and challenges, with the goal to gather YPs' recommendations on key matters. The topics - together with a comprehensive set of requirements and guidelines – are published in the Statement of Work.

The morning session is a closed-door event reserved for pre-enrolled Young Professionals.

The afternoon session is open to the entire IAC audience.

Young Professionals attending the workshop shall arrive 15 minutes earlier, to ensure a timely kick-off, and commit to actively take part in the activities for the entire day.

Time	Morning Session, closed doors (registered attendees only)
09:00 - 09:15	Welcome and Introduction
09:15 - 10:00	Expert Speakers
10:00 - 13:00	YP Teamwork
13:00 - 14:00	Lunch & Group Photo
	Afternoon Session, Plenary (general audience allowed)
14:00 – 15:00	Expert Speakers
15:00 - 16:30	Panel, Q&A

1.2 2024	Young Professionals Events	S& YOUNG SSIONALS ENTS
Sunday 13 O	october 2024	STUDENTS
08:30 - 13:30	Cross Cultural Communications and Presentation Workshop – Green Hall 3, Level -1, North Wing, MiCo Convention Centre	ST P
09:00 - 16:45	IPMC Young Professional Workshop – Green Hall 2, Level -1, North Wing, MiCo Convention Centre	
19:00 - 21:00	YPP Opening Reception – Silver Hall, Level 2, North Wing, MiCo Convention Centre (For Young Professionals Only)	
Tuesday 15	October 2024	CIAL
19:00 - 21:00	YPP Reception – The IAF WD/YPP Committee presents the panel "Space for the UN Sustainable Development Goals: Making the SDGs Real by Harnessing the Power of Space for All People"– Silver Hall, Level 2, North Wing, MiCo Convention Centre (For Young Professionals Only)	SOC
	Sponsored by: Technology Institute	
Wednesday	16 October 2024	RONAUT
19:00 - 21:00	IAF WD-YPP/ISU/SGAC YPP Reception – Silver Hall, Level 2, North Wing, MiCo Convention Centre (For Young Professionals Only)	AST
	Sponsored by:	
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L.2 2024	Young Professionals Events	STUDENTS & YOUNG PROFESSIONALS EVENTS
Sunday 13 O	ctober 2024	UDENT
08:30 - 13:30	Cross Cultural Communications and Presentation Workshop – Green Hall 3, Level -1, North Wing, MiCo Convention Centre	E E
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16:30 - 16:45

Wrap-up











#### **1.3 IAF Grant and Recognition Programmes for Students and YPs**

#### 1.3.1 IAF Young Space Leaders (YSL) Recognition Programme

The IAF Young Space Leaders Recognition Programme is awarded to exceptional students and young professionals, who contribute to astronautics in their academic or early careers, reach out to other young people and their communities to share knowledge and experiences, have been engaged with the international space community and contribute to IAF activities.

The 2024 IAF Young Space Leaders were chosen by a selection committee during the IAF Spring Meetings in March. They will be presented with their award during the Closing Ceremony of the 75<sup>th</sup> International Astronautical Congress (IAC) - IAC 2024, in Milan, Italy which will take place from 14-18 October 2024. Awardees also attend the IAC Gala Dinner as guests of the IAF President and enjoy a free IAC registration.



#### Avsha ALHARAM

Chief of Satellite Design Department National Space Science Agency (NSSA)

Aysha Alharam, the first Bahraini woman Space Engineer and Chief of the Satellite Design Department at the National Space Science Agency, is a trailblazer in the space industry. With two master's degrees and a bachelor's degree with honors, she has broken gender barriers as the first female Arab to command a satellite launch. Aysha leads the groundbreaking AlMunther Satellite, Bahrain's first fully national project, alongside other significant initiatives like the Aman payload, showcasing her leadership and innovation in space technology and cybersecurity. Beyond her technical expertise, Aysha actively mentors through the Space4Women program and engages in IEEE activities to promote diversity in STEM. Her exceptional leadership skills and technical prowess have earned her numerous awards, including the 20 under 35 Future Space Leader Global Award. These achievements underscore her suitability as a candidate for the IAF Young Space Leaders Recognition Programme, demonstrating her impactful leadership, technical expertise and commitment to advancing the global space sector.



#### Hamza HAMEED

Senior Practice Manager, Space & Connectivity Access Partnership, Space Generation Advisory Council (SGAC)

Hamza Hameed is a Pakistani lawyer who works as a Senior Practice Manager for Access Partnership in Singapore. He is a member of the ITU Secretary-General's Youth Advisory Board and served as the Chair of the Space Generation Advisory Council (SGAC) from 2022-2024. He supports governments and the private sector with policy, regulatory, and compliance-related matters in the space, satellite, and telecommunications industries. Before this, Hamza worked as part of the Secretariat of UNIDROIT in Rome. He led the effort towards establishing an international system of secured transactions law for the space sector, as well as advising governments on issues related to blockchain law and crypto law.

Hamza holds an LLM from the International Institute for Air and Space Law at Leiden University. He teaches spacecraft financing at various universities and is a member of the International Institute for Space Law (IISL).



#### Valentina LUCHETTI

Sales and Business Development Representative DcubeD (Deployables Cubed GmbH)

Valentina Luchetti is a Sales and Business Development Representative at DCUBED, supporting the business expansion of the fast-growing NewSpace company based in Munich, Germany. Prior to joining DCUBED, Valentina worked for SGAC, the Space Generation Advisory Council, covering positions such as Chief of Staff and Executive Director, and at Airbus Commercial. Valentina is the Vice Chair of the ACCESS European Subcommittee and a member of the IAF Space Education and Outreach Committee (SEOC) and the Workforce Development-Young Professionals Programme Committee (WD-YPP). With a background in aerospace engineering and a people-oriented personality, she loves supporting and fostering the space ecosystem from both technological and emerging market opportunity perspectives.



#### Gina PETROVICI

UN-Affairs Department Legal Advisor Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Gina Petrovici, LL.M., is a lawyer working in the UN Affairs Department of the German Space Agency at DLR, where she advises on space law and policy. Engagement with the international space community is the basis of her work. She leads the preparation of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) plenary meetings and actively participates in the meetings of COPUOS and its Subcommittees. As a member of the German Delegation to ESA's International Relations Committee, she advises on matters related to COPUOS as well as national and international space law. Central topics of her work include legal and policy aspects related to: Activities on the Moon (incl. Space Resources), Space for Earth and Sustainable Space Activities. Besides preparing national inputs to the Committee meetings, Gina coordinates and advocates for common positions on topical issues of space regulation at national, regional and international levels. She is the point of contact at the German Space Agency for the Artemis Accords. In this role, she regularly interacts with signatories and non-signatories on issues related to the Accords.

Prior to her current position, she worked as Junior Lawyer at ESA's Legal Services Department as part of a DLR fellowship.

Gina is determined to share knowledge and experience with young people and the community through her teaching activities, mentoring and speaking engagements. She is a Lecturer on Space Law and Policy and a Co-Coordinator of SGAC's Space Generation Advocacy and Policy Platform (SGAPP). At SGAPP, she is responsible for directing the Platform, including the oversight of SGAC policy and advocacy activities in all areas of strategic governance, such as COPUOS.

She holds a Master of Laws from the University of London and is currently preparing a PhD in Space Law. Gina has contributed to a number of publications.

At IAF, Gina is involved in the IAF International Programme Committee and the Committee on Space Security. She is also actively involved in the activities of the International Institute of Space Law, where she contributes to its Space Traffic Management Working Group, and the European Centre for Space Law, where she was elected student representative to the ECSL Board in 2015/16. Her efforts in this position led to the creation of the ECSL Young Lawyers' Symposium, which provides a platform for the younger generation to express their views on space law issues and to exchange these with established experts. Gina is also a member of WIA-E and the United Nations Association of Germany (DGVN).

#### **Carlos RODRIGUEZ**

Chief Executive Officer Orbital Space Technologies

Carlos is an electromechanical engineer. Co-founder and CEO of Orbital Space Technologies (OST), a Costa Rican startup focused on developing hardware for microgravity experimentation. Where he directed the successful development of Costa Rica's second space mission, marking the first space endeavor led by a private company in Central America.

Carlos has served on the board of directors at the Central American Association of Aeronautics and Space (ACAE) for five years. In this capacity, he contributed to various outreach and STEM education initiatives, while also representing the association at the aerospace committee of INTECO, where he worked revising and developing aerospace standards for the Costa Rica. During his academic pursuits, Carlos co-founded and presided over TECSpace, the largest aerospace engineering student group in Costa Rica.

His dedication to the field was recognized by the International Astronautical Federation (IAF) in 2021 when he was honored as an Emerging Space Leader. Currently, Carlos holds the position of Vice-Chair of the Latin American and the Caribbean Subcommittee (LAC-SC) at the IAF, where he works to enable cooperation within the space sector in the region.







#### STUDENTS & YOUNG PROFESSIONALS EVENTS

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**Takahiro SASAKI** Researcher, Research and Development Directorate Japan Aerospace Exploration Agency (JAXA)

Dr. Takahiro Sasaki is a researcher in the Research and Development Directorate of the Japan Aerospace Exploration Agency (JAXA). His research interests include spacecraft attitude dynamics, formation flying, and robust control theory. He has also published more than 100 academic papers on these topics. Since joining the JAXA in April 2018, he has been engaged in research and development of spacecraft guidance, navigation, and control (GNC) and supported more than 10 satellite missions as a GNC expert and collaborated with NASA, ESA, and ISRO. He is a member of two active debris removal (ADR) projects, Commercial Removal of Debris Demonstration (CRD2) Phase 1 & 2, the aim of which is developing space debris removal as a new, sustainable space business.

Dr. Sasaki received his Ph.D. from Osaka Prefecture University, Japan, in 2018. He was with the Small Spacecraft System Research Center (SSSRC) as a GNC engineer from 2009 to 2018 and developed 3 small satellites including a CubeSat. From January to November 2017, he was a visiting scholar at University of Colorado at Boulder. From November 2017 to March 2018, he was with the Robotic Mobility Group, Jet Propulsion Laboratory (JPL) as a visiting scholar.

As an enthusiastic participant, Dr. Sasaki has attended IAC eight times and presented his research. As the team leader of the International Project/Programme Management Committee (IPMC) Young Professionals (YP) Workshop in IAC 2021, Dr. Sasaki promoted the research on "Remote Collaboration" and contributed to the success of the workshop. He was also selected as one of the JAXA-sponsored students to attend the International Space Education Board (ISEB) Programme held at the IAC 2013 (Beijing) and 2015 (Jerusalem), taking on the role of student leader.

Based on his experience in space education activities at ISEB/IAC Beijing and Jerusalem, he has conducted a lot of space education activities in China, Israel, Vietnam, Cambodia and Japan, and also shares his knowledges with high school students from 32 countries in the United Nations Educational, Scientific and Cultural Organization (UNESCO) International Education for Sustainable Development (ESD) Forum for high school students.

His hobby is traveling and he have traveled to more than 45 countries.

#### 1.3.2 IAF Emerging Space Leaders (ESL) Grant Programme

These students and young professionals were chosen by the IAF Emerging Space Leaders Sub-Committee composed of highly experienced space stakeholders. They will travel to Milan, Italy in October 2024 to participate in the 75<sup>th</sup> International Astronautical Congress and have the opportunity to extend their network, gain knowledge and meet space experts!

#### Anupam KUMAR PILLI



Anupam is at the forefront of shaping Australia's space industry through his role as Business Development Manager at the Australian National University's Institute for Space. His work, including the development of the National Space Qualification Network (NSQN), is crucial in translating academic/industrial research into practical, scalable, and sustainable solutions that elevate Australia's contributions to the global space ecosystem. Anupam's efforts are crucial in fostering international collaborations that enhance global space capabilities, demonstrating the profound understanding of the strategic partnerships between nations in the push to explore the final frontier – Space.

Beyond his technical and managerial capabilities, Anupam's entrepreneurial spirit shines through his venture, Straight Outa Vizag, a result of his passion for the arts. This endeavour reflects his belief that innovation is as much about technology as it is about human connections. This initiative not only fostered local agriculture but also served as a testament to his commitment to community engagement and environmental sustainability, promoting a holistic approach to innovation.

Anupam's perspectives on space revolve around the power of international cooperation to tackle some of the most pressing challenges facing humanity. He believes that fostering partnerships across borders can accelerate technological advancements and lead to sustainable outcomes that benefit not just individual nations but also the global community. His leadership is characterized by a drive to not only push technological boundaries but also to ensure that these advancements are leveraged for the greater good and for enhancing the life on Earth

#### Balagopal MANAYIL SANTHOSH

Balagopal is a 2nd year doctoral student in the department of Mechanical and Aerospace Engineering at the University of Strathclyde, Glasgow, pursuing research in Particle Accumulation Structures in Multiphase flows under microgravity conditions. He is a member of the UK Space Agency sponsored T-PAOLA Particle Vibration Experiment, which was executed on board the International Space Station over a period of 3 months in 2023 to study how vibrating a differentially heated fluid, hosting a dilute random distribution of particles, can lead to complex particle-self-assembly phenomena in the absence of gravity. The successful experiment gathered a huge amount of data that are currently being post-processed to study this phenomenon further. Balagopal has a great passion for this research topic given its connections with important fields such as protein crystallisation, the production of alloys with completely new properties and in-space manufacturing of various other materials. His most recent publications detail how this aggregation phenomenon can be controlled by varying the thermal boundary conditions along with different modes of vibrations

He was also a delegate representing the University at the COP26-COY17, 2022 (The Youth Constituency of the United Nations Framework Convention on Climate Change (UNFCCC)) sharing his insights on sustainable air mobility in the context of the UN Sustainable Development Goals.

His other research outcomes, related to Satellite Data Analysis, Spaceflight Mechanics and Constraint Layer Damping methods for Aero-elastic Flutter mitigation on Turbofan blades, were the result of collaborative efforts with other research groups.







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Beste BOYBASI

Beste is currently pursuing a bachelor' s degree as a senior mechanical engineering and physics double major student at Koç University in Istanbul, Türkiye. Her academic career shows that she has been driven by a vision to merge science with engineering in the space industry. Her journey toward STEM education began with a childhood fascination for space sciences, which has directed her toward her current path. Currently, she is shaping her career around the space industry to inspire the younger generation with her roadmap for the future. Working in a developing country, she strategically utilizes available resources in her country and resources in other countries as well. Furthermore , she actively seeks diverse perspectives through internships in various companies both in Turkey and Europe. In her role as the mechanical captain of the Koç University Rocket Team, Beste manages a team to design and build rockets. This demonstrates her passion for directing the younger generation to the space sector. Moreover, her position as an undergraduate researcher at TÜBITAK Space Research Institute further shows her commitment to shaping the future of space exploration by contributing to the design of future national lunar missions for Türkiye. Her diverse experiences, coupled with her passion for space sciences show Beste's willingness and ingenuity to contribute to the future of the space sciences.



# S

#### Brelveenraj KAUR

Brelveen is currently a Senior Satellite Engineer at MEASAT Satellite Systems Sdn Bhd. She has 5 years of experience in satellite control, engineering, satellite communications, and space system operation and maintenance. She holds a Bachelor Degree of Electrical and Electronics Engineering (Communications) from National Defense University of Malaysia and pursued her MSc in Aerospace Engineering with Universiti Sains Malaysia (USM). In 2024, she received the Asia Pacific Space Leader Award Leader (AP-SLA). As a recipient, she was granted the opportunity to participate in the 10th Asia Pacific -Space Generation Workshop held in Maldives.

Having a passion for space and satellites, she presented her research at the International Astronautical Congress (IAC) in Baku, Azerbaijan and International Conference on Space Science and Communication (IconSpace). Her first paper on Ground Based Augmentation Systems was published in the Springer – Proceedings of the 8th International Conference on Space Science and Communication.

As Malaysia's National Point of Contact (NPoC) for the Space Generation Advisory Council since Brelveen showcased leadership, leading the SGAC Malaysia team at the Langkawi International Maritime and Aerospace event (LIMA) in 2023, gaining recognition from the Malaysian Space Agency (MYSA). She advocates for SGAC members, securing their inclusion in governmental policy-making.

Aiming to bridge the gap between academia and space industry, she co-led SpiSEA, Southeast Asia's first and longestrunning webinar, connecting students with industry leaders for internships and future career opportunities. Brelveen's commitment to space exploration and technology drives her to continue pushing boundaries, as she works towards her dream of being an astronaut.



#### Casey Marie DOMINGO

Like many, space was my first true love. Watching the night sky endlessly, in admiration of its awe-inspiring domain. This fascination drove me to earn a Bachelor of Science in astrophysics. However, it was my passion for storytelling and commitment to equity that propelled me into STEAM communication, and now, cultural connections and ethics of space.

Over the years, I have facilitated countless youth science outreach programs and produced a variety of fundraising and community-led events. In 2023, I participated in the Southern Hemisphere Space Studies Program on a scholarship awarded by the Andy Thomas Space Foundation, then later returned as a teaching associate for the Brazil Space Studies Program. Recently, I was honoured to be the Laby Research Scholarship recipient to conduct cultural astronomy research at The University of Melbourne. Additionally, I co-created (Un)Common Cosmos, a new project devoted to amplifying and exploring non-dominant insights on outer space.

I firmly believe that the communication of space and astronomy holds the power to inspire humans of all ages, fostering both a deeper connection to the night sky and STEAM engagement. An engagement, that when conducted in a meaningful way, can have a myriad of positive impacts on and off Earth. However, as the new space era rapidly evolves, it becomes increasingly vital to critically examine our practices and relationships with outer space. In doing so, networks and praxis of international cooperation can greatly benefit by listening to, learning from, and actively including the perspectives of those typically marginalised.



Edgar MUJUNI

Edgar Mujuni is a Special Presidential Assistant on Space Engineering for Uganda. He is renowned for developing Uganda's first satellite, the PearlAfricaSat-1, which was successfully launched as part of the BIRDS-5 project in December 2022.

He holds a first-class degree in Telecommunications Engineering from Kyambogo University in Uganda. He too holds a Master's degree in Space Systems Engineering from Kyushu Institute of Technology (Kyutech) in Japan. Currently, he is pursuing his Ph.D. studies in Electrical and Space Systems Engineering at the same Institute, where he belongs to the Wireless Systems Laboratory. This pursuit is under the Post Graduate Study on Nanosatellite Technologies Scholarship, funded by the United Nations Office for Outer Space Affairs (UNOOSA) in collaboration with the Japanese Government.

Mujuni has demonstrated expertise in various satellite subsystems, including Satellite Communications, Store & Forward Missions, Ground Sensor Terminals, and Ground Station operations. He is currently involved in projects such as LEOPARD and Micro-Orbiter-1 satellite development and operations at Kyutech. He is Uganda's Point of Contact for UNISEC-global, an initiative aimed at fostering local chapters to promote practical space development activities primarily at the university level. He envisions leveraging satellite technology to address global challenges in agriculture, food security, disaster management, water resources, mineral exploration, climate studies, and scientific discovery. He believes that international cooperation is key to harnessing space-based solutions for these critical global issues.

In recognition of his significant contributions to the advancement of space technology within Uganda, Edgar was awarded the 'Diamond Jubilee Medal' by the Government of Uganda in 2023.

#### Fay ABDUL GHANI



Fay is a New Zealander, originally from Iraq, and currently a medical researcher working with the Center for Regenerative Biotherapeutics, Mayo Clinic, Florida, USA in collaboration with NASA. With a strong focus on advancing human health, her research focuses on studying stem cells in space and developing regenerative medicine therapies in microgravity for patients on Earth and future space travelers. Recognizing the importance of international collaboration in both space and medicine, Fay is involved in various organizations and meetings locally and internationally to discuss human spaceflight and the importance of developing medical research in space. She is passionate about increasing accessibility, creativity and transparency in the space sector and adopting interdisciplinary approaches to solving problems.

Fay received her Bachelor of Biomedical Science (Honours) degree with First Class Honours from the University of Auckland in New Zealand and was the recipient of two highly competitive research scholarships, awarded by the School of Medicine Foundation and Te Punaha Atea Space Institute. She has also been awarded scholarships and grants by the Auckland Bioengineering Institute, Northrop Grumman, Space Generation Advisory Council and Alberta Innovates.

Through her work, Fay continues to participate in expanding opportunities in space medicine research, especially for emerging space nations like New Zealand. She believes today's technological advancements in both medicine and space technology make it an exciting time to uncover human health among the cosmos and prepare for exploration of other planets while also benefiting human health on Earth.







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#### Hery Steven MINDARNO

Hery Steven Mindarno, currently pursuing a master's degree in Space System Engineering at Kyushu Institute of Technology under the supervision Prof. Mengu Cho, is a recipient of the Japanese Government's scholarship (MEXT) through the United Nations/Japan Long-term Fellowship Programme (PNST). He is a dynamic young space professional with expertise in satellite structure engineering and international collaboration. His contributions include being a key member in the development of Indonesia's first nanosatellite "Surya Satellite-1", which was successfully launched on 6 January 2023 as part of UNOOSA's KiboCube Program.

Currently, Hery is actively engaged in the LEOPARD Satellite project as a satellite structure engineer. LEOPARD is a 3U CubeSat with multiple missions planned for Low Earth Orbit, set to be launched in early 2025. His contributions to the LEOPARD project demonstrate his continued dedication to advancing space technology and his ability to deliver robust and functional satellite systems.

In addition to his technical accomplishments, Hery's professional development includes attending prestigious international space events such as the IAC and APRSAF. He has also gained valuable experience through internships at Tokyo startup and at BRIN's Satellite Technology Centre in Indonesia, where he honed his skills in satellite design and international collaboration. Additionally, his 3-year tenure in the IoT industry at Netra Space adds to his diverse expertise in space engineering and international collaboration. Hery believes that space exploration drives groundbreaking discoveries, global collaboration, and sustainability. He is committed to leveraging his expertise in space engineering to unlock space's full potential for humanity's benefit.

#### Jorge Rubén CASIR RICAÑO

Jorge Ruben Casir Ricaño is a Mexican Ph.D. candidate at the Space Robotics Laboratory of the Kyushu Institute of Technology (Kyutech). He is an awardee of the UN/Japan long-term fellowship "Postgraduate Studies on Nano Satellites (PNST)." Jorge's research focuses on developing self-diagnosis, prediction, and fault-detection systems for lunar rovers. He obtained a Specialist degree in the Design, Production, and Operation of Rockets and Space Systems at Bauman Moscow State Technical University (BMSTU).

Jorge is the project manager of Kyutech's BIRDS-X DRAGONFLY satellite, a team of more than 15 international students of different backgrounds. He is also the leader of the structure subsystem, where he designed, developed, and tested the satellite's structure to comply with JAXA's safety standards. Jorge contributed to the design, testing, and programming of two rovers for lunar construction collaboration. His research on anomaly and fault detection aims to improve the rovers' reliability and robustness, minimize resource wastage, and thereby enhance construction possibilities on the Moon and other planets. Jorge is also an active member of the space community, having been involved in organizing committees for several International Workshops, including the 1st MVA TWLG Workshop, where he was a discussion group moderator, and the 6th E-SGW. He has also participated in several regional Space Generation Workshops, two Fusion Forums, and a Space Symposium.

"Space is something so great, something so many people have dreamed of since they were kids, and I will do my best to make it not a dream but a reality for all."



#### Lily R. ASONGFAC

Lily R. Asongfac is a dynamic telecommunications engineer renowned for her innovative problem-solving and strategic leadership. As Strategic Partnerships Manager at Space Hero Ltd, she achieved a remarkable 1500% increase in the partner portfolio by identifying underreached regions and executing tailored outreach campaigns. Her technical expertise was pivotal in designing a nanosatellite mission for the Gabonese Space Agency at NMD Ltd, showcasing her ability to navigate complex challenges for mission success.

Passionate about inspiring the next generation, Lily founded the Aerospace Baby Project, engaging children in space outreach activities to spark interest in aerospace careers. As the National Point of Contact for the Space Generation Advisory Council in Cameroon, she promotes STEM education and organizes events to involve youth in space activities, and she started the Youths for Sustainable Space Development (Y4SSD) community. Lily's mentorship extends to supporting university students, enabling them to participate in international space events and conferences.

Her achievements include receiving the Nebula Award and being selected as a TechWomen Fellow for the US Department of State. Additionally, Lily was honored with selection for the Space Foundation Teacher Liaison flight 24, further recognizing her exceptional talent and dedication to advancing aerospace. In summary, Lily Asongfac's leadership, innovation, and commitment to mentorship make her a driving force in the African space industry and a beacon of inspiration for the next generation of space professionals.



Madiha RASHEED

Dr. Madiha Rasheed is a Postdoctoral Fellow at the School of Medical Technology, Beijing Institute of Technology, China stands at the forefront of researching neurological impacts due to spaceflight. Her work is instrumental in understanding how prolonged exposure to space can affect astronaut health, focusing on pioneering RNA-based AlEgens to monitor neurobiological changes caused by microgravity.

Dr. Rasheed's distinguished academic path, highlighted by a PhD in Biomedical Engineering, showcases her dedication to advancing space health. She has pioneered studies on miRNA- based-biomarkers for detecting space-induced depression and neurodegenerative conditions under spaceflight factors. As the first Pakistani to achieve significant breakthroughs in this domain, Dr. Rasheed has published numerous influential papers and significantly contributing to the global space biology research.

Her accolades include the Distinguished Student Award from Beijing Institute of Technology, reflecting her excellence and commitment. Dr. Rasheed has presented her innovative findings at international forums, strengthening global dialogue on space health, and fostering international collaboration.

A staunch advocate for integrating scientific research into space missions, Dr. Rasheed emphasizes the importance of international cooperation to enhance astronaut health and safety. Beyond her research, she is dedicated to inspiring future space scientists through active knowledge dissemination.

Through her pioneering research and unwavering commitment to education, Dr. Madiha Rasheed is shaping the future of space exploration, ensuring that humanity can safely navigate and explore the final frontier. Her work stands as a testament to the power of interdisciplinary collaboration and innovation, propelling our understanding of space and its profound effects on human physiology.

#### Maria Paula BUSTOS MORENO



Maria Paula (26) from Bogotá, Colombia, is a Geologist from the Universidad Nacional de Colombia. She dreams of becoming an astronaut and was an analog astronaut at the Mars Desert Research Station (Crew-226). She works in the operation of the Satellite Laser Ranging Station at GFZ, Potsdam, and is a student advisor at her university.

She received an Undergraduate Research Fellowship from Purdue University to research the agricultural impacts on soil in biogeochemistry labs. She is pursuing a MSc. in Geodesy and Geoinformation Science at TU Berlin, focusing on using satellite data to monitor Colombian water bodies, aiming to address the country's freshwater crisis. She is a student in the Space Entrepreneurship program at the European Institute of Innovation for Sustainability, developing a startup idea under the guidance of AIRBUS, ESA, and ThalesAlenia.

In 2021, she supported the recognition of the Colombian Paleontological Museum of Villa-de-Leyva as a science center and, under the guidance of the Ministry of Science, led the unification of several science centers in Colombia.

Colombia is one of the most biodiverse countries and richest in water resources. Maria Paula considers that international cooperation is essential to protect these resources by supporting Colombia in its efforts to integrate SAR technology into its satellite missions to address challenges such as water scarcity, wildfires, and deforestation.

Maria Paula volunteered teaching English to children affected by Colombia's armed conflict through the Match-Tenis-Foundation, volunteered as a cycling ride leader with VOXWomen, enjoys practicing triathlon, and communicates science through her initiative @DailySciencePosts.

#### Matthew SUTCLIFFE



Matthew is a junior researcher in space policy and strategy. His masters thesis research argues for the development of cooperative strategies in space technology and policy, having previously worked for Cambridge Political Futures in their collaboration with Oxford's smart space series. Matthew believes an important part of promoting cooperation and future space exploration missions will be advancing multilateral science and technology agreements. Those agreements should aim to provide sustainable space technologies and applications in support of the betterment of humanity and the planet. His longer term aspirations are to steer international space policy, and he believes effective diplomacy in the space field, whether governmental or corporate diplomacy, calls for strong liaison skills to coordinate such projects. Matthew looks forward to contributing toward such agreements in the Asia-Pacific region, including bilateral joint ventures between emerging spacepowers, APAC partners, as well as multilateral projects involving international organizations, national agencies and the commercial sector. His expertise in future technologies, exploration projects and over-the-horizon strategic plans are particularly favourable for this skillset. Matthew graduated from the University of Cambridge with a BA (Hons) in Politics and International Relations, and is soon to graduate from his Masters at the Paris School of International Affairs. He is passionate about astronomy and astrophysics, and is a member of La Société astronomique de France. He has an ECSL/ESA space law accreditation and was a student delegate to the Académie de l'air et de l'espace in 2023. In his spare time, Matthew enjoys playing sports and the piano.







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Md Sharif ISLAM

My name is Sharif Islam, and I work as a postdoctoral research associate in the Space Enabled research group at Massachusetts Institute of Technology (MIT). Originally from Bangladesh, I have made significant contributions in academia and as a young space professional. My research focuses on leveraging satellite earth observations to address issues related to different sustainable development goals (SDGs). Currently, my research contributes to addressing issues ranging from drought to coastal erosion in developing countries such as Angola, Bangladesh, and Brazil. I have received several prestigious awards, including the Future Earth Coasts (FEC) Fellowship and the Earth Science Information Partners (ESIP) Community Fellowship, in recognition of my contributions as an early career researcher. My diverse and impactful contributions in academia and as a young space professional underscore my dedication to advancing knowledge in the fields of earth observation and environmental science.

I am passionate about making space technologies more accessible in developing countries to foster diversity and address issues related to global sustainable development goals. International collaboration in the space sector can lead to a better world for all. Through collaborative efforts, countries can combine their resources, knowledge, and technological advancements, resulting in missions that are not only more streamlined but also more economical. This sharing of scientific data, research discoveries, and technological breakthroughs facilitates a richer comprehension of both space and the cosmos. Moreover, international alliances in space exploration strengthen diplomatic ties, encourage peaceful interaction, and cultivate mutual confidence among nations.

#### Miraslava KAZLOUSKAYA

Miraslava, an Associate at PwC's Space Practice, provides regulatory and market analysis for international projects across the entire space value chain.

She possesses an extensive academic and professional background. During her bachelor's studies in International Law at Belarusian State University, she helped develop the Space Law School and received a 1st class award at a National Contest for her space law paper. With prestigious scholarships, she pursued an Advanced LLM in Air and Space Law at Leiden University and an MSc in Space Studies at the International Space University.

Miraslava apprenticed at the National Academy of Sciences of Belarus, promoting peaceful space uses in CIS countries. She also interned at Airbus DS, worked on Copernicus services at Groundstation.SPACE, researched the Space Assets Protocol at UNIDROIT, and contributed to the 66th UNCOPUOS session as a UNOOSA intern.

She co-leads the research team within the SGAC Space Law and Policy Project Group and serves as Belarus' National Point of Contact. She is also a member of IISL and the IAF/IAA/IISL Advisory Committee. Additionally, she has published several academic papers, won a team award at the Cassini hackathon, participated in moot courts as a pleading agent and co-coach, and is a Belarusian Future Leader Award finalist.

Miraslava believes that international collaboration is vital for developing sustainable methods to explore the cosmos and utilize space technologies to enhance societal well-being. Embracing diverse professionals and private companies alongside governments fosters inclusivity and innovation, leading to shared benefits for all.



#### Natasha DISHA

Like many others in the space industry, my dream of being part of the international space industry started relatively young, encouraging me to pursue my degrees in engineering and physics at the Australian National University (ANU). As an Engineers Australia member, I have worked as an academic at ANU, where I taught undergraduate and postgraduate students. I have actively contributed to building Australia's system engineering workforce, which later went on to work in the Australian space industry. Currently, I am working as a Business Development Manager (BDM) at the ANU Institute for Space (InSpace), where I lead the space education program for ANU. One of my key responsibilities in this role is building relationships with international stakeholders to ensure Australia is doing enough to develop its talent pipeline. In this program, I am researching Australia's space education industry by cultivating conversations with key players in the Australian space industry, including the Australian Space Agency, Space Industry Association of Australia, and Aviation/Aerospace Australia, to name a few.

Additionally, I am proud to lead two Space medicine projects as BDM for iLAuNCH, an Australian Government's Trailblazer program, by developing collaboration between industry, government, and universities.

I consider myself an advocate of Australia's space industry. I have had the privilege of publicly sharing my views on it, including attending interviews conducted by BBC London and SBS World News.

My attendance at IAC 2024 will help me build international relationships and advocate for Australia's space industry.



Nishita SANGHVI

Nishita is currently pursuing a dual Master's degree in Aerospace Engineering and Systems Engineering at the Technical University of Munich (TUM) and ISAE-SUPAERO, respectively. Originally from India, her academic journey has taken her to Europe, where she is committed to contributing to the international space community.

Nishita gained practical experience working as a project trainee at the Indian Space Research Organisation (ISRO). Her work focused on the star trackers and sun sensors of the Indian Data Relay Satellite System (IDRSS), a constellation of communication satellites. Her interest extends to CubeSats and SmallSats, which she recognizes as a promising avenue for democratizing space access and fostering innovation.

Nishita believes that sustainable space practices are essential and should be incorporated into every facet of space exploration. To advocate for this, she serves as the PR and Communications Coordinator for the Space Safety and Sustainability Project Group (SSS PG) under SGAC. In this role, she engages with audiences to raise awareness about space safety and sustainability, emphasizing their importance.

Beyond professional pursuits, Nishita is passionate about space education and enjoys sharing her knowledge with children. Through workshops and mentorship sessions, she has impacted over 500 students from diverse backgrounds in her home country. Nishita remains dedicated to expanding her educational outreach efforts, aiming to reach more students in India and developing countries globally.

Nishita is driven by the belief that the true potential of space resources can only be unlocked through responsible and equitable sharing amongst all nations. She envisions a future where space research and technology are not exclusive pursuits, but accessible to everyone. This future, she believes, can only be built on a foundation of inclusivity, diversity, and sustainability.

#### **Rebeca JIMENEZ**



Rebeca is a Senior Project manager at OpenText. She has worked in software licensing, as a data and project analyst. She has knowledge in bilingual preschool education, data science, Python programming, cloud computing, marketingcommunications techniques, and is currently pursuing a degree in entrepreneurship at the International University of Applied Sciences (IU) in Germany.

She is an enthusiast and lover of space, having participated in hackathons (Nasa Space Apps Challenge) and attended conferences (SGAC -IAC) and helped organize the regional space event as a Communications Lead for SGAC. She is currently part of the Commercial Group at SGAC and works on other projects/start-ups in the space sector. Has been invited as a speaker for Space-Organizations, has volunteered through programs that empower girls and women in STEAM careers. She won a scholarship to the first Space Gala of Reinvented Magazine 2022, aimed exclusively at girls in the STEAM field, which is held annually at the Florida-NASA Kennedy Space Center. She has been a pioneer in space camps in Costa Rica (Campamento Galileo) for children of primary ages and hopes to share everything about space through education. She currently is a Co-Founder of the Orion Outreach Foundation for STEAM and Space Education in Costa Rica.

She loves connecting with new people, sharing experiences, and helping others when needed. She firmly believes that space is for everyone and that you should always follow your dreams, be passionate about it, and never give up

#### Ruby PATTERSON



Ahmed E. S. Nosseir, (Dottore Magistrale) is a PhD candidate in the Italian national doctoral program of Space Science and Technology (Dottorato Nazionale in Space Science and Technology), where he's doubly affiliated to the Scuola Universitaria Superiore Sant'Anna di Pisa and the University of Trento. Ahmed is a member of his PhD program board as a representative to the doctoral students. He carries an engineering degree from the German University in Cairo (GUC) where he studied Engineering and Materials Science majoring in Mechatronics. He then received his MSc. degree in Aerospace Engineering from the University of Pisa in Italy where he graduated with Honours (Cum Laude). He' is fond of scientific research and development with record number of publication of three journal articles and four conference papers out of his master's research study period in TU Delft under the supervision of Prof. Angelo Cervone and Prof. Angelo Pasini. Ahmed is a qualified 'Expert on the Subject' (i.e., cultore della materia) in the course of 'Rocket Propulsion' taught in the master's program of Aerospace Engineering in UniPi assisting Prof. Luca D'Agostino. Currently, he's working on developing innovative space systems by employing optical fibre sensors and integrated photonic sensor systems for rocket propulsion condition-monitoring and space systems applications, focusing on applications in LEO satellites, interplanetary spacecraft, and reusable launch vehicles.

After previously holding several positions as teaching assistant and lab instructor, he wishes to transfer the knowledge he acquired in the field of Rocket Science from Europe back to Egypt and Africa.







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Sackdavona MANGKHASEUM

in various areas in developing countries.



#### Sam RAVI

Sam Ravi is a final-year Aerospace Engineering student at the University of Leicester, United Kingdom. She completed a 13-month Industry Placement Program with Airbus Defence and Space in the Innovations Department, where she was immersed in groundbreaking and disruptive space technologies and concepts across both defence and space sectors. Winning an internal call for ideas at Airbus related to Space Sustainability led her to discover her passion for Space Situational Awareness (SSA) and Space Surveillance and Tracking (SST). This inspired her final year dissertation, which explores novel technologies for SSA and SST, aiming to design an ideal solution to the exponentially escalating space debris challenge and ensure space safety and peace.

Sackdavong MANGKHASEUM is a Ph.D. candidate in Electrical and Space Systems Engineering at Kyushu Institute

of Technology (Kyutech) in Japan. He received a UN/Japan Long-term fellowship "Post Graduate Studies on Nano

Satellites (PNST)" to pursue a master's degree and doctoral degree in Space Engineering International Course (SEIC) at

Kyushu Institute of Technology. During his studies, he had a great opportunity to be involved in the 3U CubeSat project,

which is called Curtis satellite at the Laboratory of Lean Satellite Enterprises and In-Orbit Experiments (LaSEINE),

Kyushu Institute of Technology (Kyutech), where he is responsible for the communication subsystem and antenna

deployment mechanism. His research area is utilizing earth observation data, image processing, and machine learning

approaches. Moreover, he served as the National Point of Contact for Space Generation Advisory Council (SGAC) in

Laos. Therefore, he tries to promote space technology and education at schools and universities in his country. He truly

believes that educating young students through project-based learning, particularly in areas like CanSat and CubeSat,

stands as a crucial factor in fostering space awareness and advancing the space sector in Laos. In addition, Sackdavong

aims to promote international cooperation in the utilization of satellite data and space technology to solve problems

In her final semester, Sam worked part-time for Seraphim Space in the Space Camp Accelerator, where she scouted and analyzed early-stage startups, across the world and worked with pioneers at the forefront of the space industry. She is passionate about networking and ingraining herself within the industry and space ecosystem, and keen on staying on top of the latest news and technologies.

Throughout high school, Sam was involved with the New York Academy of Sciences on several projects with people all around the world, working on solutions to achieve the UN's 2030 Sustainable Development Goals. She won the Distinguished Student Award twice from NYAS (2017 and 2019), presenting her solutions to 14 Nobel Laureates and later to corporate CEOs. At university, she led several teams in national and international competitions, from designing Mars Rovers and Lunar Colonies to conducting research on Alien Linguistics. In 2023, she was named Engineering Student of the Year in the UK by IET, EqualEngineers, and the Engineering Talent Awards. In addition to her proactive involvement in the space industry, she volunteers with SGAC and SGUK, and participates in various side projects focused fundamentally on innovation and space sustainability.

Her ultimate dream is to lead a space mission and start her own space company, tackling frontier challenges and potentially traveling to space, maybe Mars. Growing up in seven countries has instilled in her the determination and belief that anything is possible by not being scared to dream, and that the sky is most certainly not the limit. She is committed to promoting international space collaboration and diversity in the space sector.

Sam is thrilled to attend her first International Astronautical Congress (IAC) this year, having been chosen for this prestigious award as an Emerging Space Leader 2024, as well as having seven abstracts accepted.



#### Sanath Kumar NAIK LAKSHMAN

Sanath Kumar Naik Lakshman is an emerging Aerospace Engineer with a Master's degree in Aerospace Technology from Nitte Meenakshi Institute of Technology, Bengaluru India, specializing in aerospace structures, aerodynamics, and computational fluid dynamics. Currently serving as a Senior Engineer at National Aerospace Laboratories. He is engaged in innovative Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) to enhance aircraft structures and developing test rigs for aircraft component testing and certifications. His previous experience at the Gas Turbine Research Establishment provided him with hands-on expertise in complex simulations and computational techniques.

He has made significant contributions to the field, including presenting his research on "Agricultural Hybrid Drones" at the International Conference 2023 at IIT Tirupati and co-authoring a paper on "Swarm UAVs for Efficient Remote Sensing on Mars" presented at the International Astronautical Congress 2023. His research is centered on aerospace technology and Martian exploration, focusing on innovative solutions such as decentralized decision-making, dynamic path planning, collision avoidance, and effective communication among UAVs. Additionally, his work includes advanced numerical simulations for gas turbine engines, CFD analysis, and the integration of hybrid propulsion systems in UAVs for efficient pesticide spraying. He also explores the use of composite materials to enhance structural integrity and reduce weight in aerospace components, contributing to advancements in both terrestrial and extraterrestrial applications.

Actively involved in space technology discussions, He regularly participates in seminars on space technology. His research aims to improve the efficiency of exploration missions, particularly in the challenging environments of Mars. Outside of his professional work, he enjoys playing the guitar, with a passion for Indian classical and rock music. He is also an avid sports enthusiast, with interests in cricket, cycling, and motorsport, especially Formula 1. Eager to grow and explore new opportunities in aerospace and space technology, He is enthusiastic about connecting with others and advancing in this dynamic field.

#### Shahadev RAI



As an undergraduate student member of Nepal Astronomical Society, Mr. Rai continuously leads a series of astronomy and space educational & outreach programs. These include workshops such as Build a Rosetta Mission Water Rocket Workshops, Stargazing Sessions, Space-quiz, and Lunar and Solar eclipse observations for the primary and secondary level students. He utilizes locally available resources to reach the marginalized community of Srilanka Tappu island of Sunsari district and Belaka Municipality of Udayapur district.

Mr. Rai has discovered two provisional main belt asteroids and has been mentoring the students in the All Nepal Nepal Asteroid Search Campaign. He facilitated the students from remote regions to participate in the asteroid search campaign. Moreover He has been actively working to cultivate space literacy, raise public awareness and sensitize young school students on the topic of astronomy and space science. Mr. Rai strongly believes in international cooperation for equity and inclusivity in the realm of space science. He advocates for the marginalized students, empowering them to draw closer to the wonder of space.







Shahadev Rai is an Undergraduate Student Member of Nepal Astronomical Society and passionate space enthusiast currently studying physics at Amrit Campus, Tribhuvan University. He is actively working to bridge the gap between lack of space education and the captivating world of cosmic exploration. Having witnessed firsthand the disparities in access to space education and resources, he is dedicated to actively contributing to fostering space science and



#### Senior SHIMHANDA

Senior SHIMHANDA is a Japan Society for the Promotion of Science (JSPS) Fellow at the University of Tokyo (UTokyo), Japan.

As a PhD candidate in the UTokyo Department of Advanced Energy Engineering, Senior conducts high-power electric propulsion research in the Komurasaki-Koizumi Space Propulsion Laboratory.

Prior to the JSPS Fellowship, he was a Japanese Government MEXT Scholar. In 2018, Senior was awarded the Japan International Cooperation Agency's ABE Initiative Scholarship to the Kyushu Institute of Technology,

where he mastered the Space Engineering International Course (SEIC) at the Laboratory of Lean Satellite Enterprises and In-Orbit Experiments (LaSEINE). Besides being an alumnus of the 5th Biennial African School of Fundamental Physics and Application, Senior was part of Namibia's first cohort in the Newton Fund's Development in Africa with Radio Astronomy Training.

He is also a student member of the Electric Rocket Propulsion Society (ERPS) and the Japan Society for Aeronautical and Space Sciences (JSASS). His research interests lie at the intersection of plasma propulsion and plasma diagnostics.

He is particularly into Electrodeless Plasma Thrusters (EPTs) for Deep Space Exploration, as well as in-situ electrostatic probes.

The TRL of EPTs is presently low, requiring a united front to optimize their thrust efficiency. Hence, Senior's career goal and duty to devote himself to EPTs. Finally, he firmly believes that international cooperation and space are mutually indispensable.



Dr. Shreya Santra, is an Assistant Professor at Tohoku University, Japan. Her expertise spans in designing intelligent autonomous systems, focusing on multi-robot coordination, perception and motion planning algorithms in unstructured challenging environments. With prior experience in industrial robots for warehouse logistics, small satellite constellations and high-altitude balloons, her current research focuses on AI and Deep Learning techniques applied on multi-modular planetary robots.

She pursued her Ph.D. at Tohoku University's Space Robotics Lab in collaboration with DLR Institute of Communications and Navigation, awarded by MEXT Japan and DAAD Germany. She holds an undergraduate degree in Electrical Engineering from India, a Masters in Space Studies from the International Space University, France, and an M.Sc. in Space Engineering Systems from the Skolkovo Institute of Science and Technology, Russia.

Having lived in six different countries over the past decade, she has gained vast experience working with international teams collaborating with international teams. She is the Scholarships Team Co-coordinator at SGAC and has been recognized for her STEM outreach activities and contribution towards the growth of the organization. She is a cofounding member of Spaceport SARABHAI, India's first space policy think tank, where she curates debates and dialogues on topics crucial to the current space scenario.

She advocates for sustainable development through awareness, innovation and collaboration. Her goal is to motivate a generation of young explorers by mentoring them to follow their dreams and inspire innovative ways of sustainable exploration of Earth and beyond. She enjoys dancing, gardening, and traveling, prioritizing sustainability in her daily life.



Stella Chelanaat MUTAI

Stella Chelangat Mutai is a 31 years old female, Kenyan, She is Geospatial Specialist with over 5 years of demonstrable experience in geospatial data analysis and management, remote sensing, and using geospatial data to provide solutions especially during emergency preparedness and response. She completed her Bachelor in Geospatial Information Science in 2016. From 2017-2019 she continued her Master's in Geoinformation Science and Earth Observation at the University of Twente, Netherlands. Equally has gathered a Certificate in Use of Geospatial Technology for Sustainable Development Goals - Food Security from Central European University in Budapest, Hungary. Additionally she equally pursued bachelor in Geospatial Information science from Dedan Kimathi University of Technology, Nyeri. Stella was awarded top 40 under 40 2023 by BD Africa and as well Top 50 rising stars 2023 in geospatial in the world by world geospatial council. Stella was awarded GEO Individual Excellence Award: Presented for exemplary work in promoting the use of Earth Observation (EO) data and tools to deliver meaningful impact across Africa during the GEO virtual awards ceremony at the GEO -17 Plenary | November 2021 https://lnkd.in/gZAGJgWr. Stella emerged as one among the Top 15 Women Leading the Machine Learning for Earth Observation Community (ML4EO) (2020–2021) (https:// Inkd.in/d7ruz7b). Stella emerged winner in Farming by Satellite Winner of Special Africa Prize—"Digital Earth Africa and Earth Observation in Monitoring Coffee Farming in Kenya" (2020) (http://www.farmingbysatellite.eu/pastwinners/2020/). She has gathered work experience with GIS and Earth observation analytics consultant working with multilateral organizations such as the United Nations' International Fund for Agricultural Development. Stella currently works for United nations at World food Programme as a Geospatial consultant.

#### Stephanie Maria LEITON RAMIREZ



I'm a space dreamer from Costa Rica. A computer master's student and member of the Aerospace Engineering Group (GIA) of the University of Costa Rica. Also, a young professional, in the computational area at the PRIAS Laboratory of the CeNAT. In the GIA group, we carry out scientific and technological outreach activities to inspire students and professors from different disciplines to participate in aerospace and aeronautical research, and we strive to promote women in STEM. These invaluable experiences have motivated me to take a role in education as a university professor, promoting students to explore the world of computers through examples related to space.

In PRIAS Laboratory, I work on developing systems for sharing spatial data applications that assist decision-makers, as well as project management to promote geo-aerospace science and technology through web platforms. An example of this is creating a "Creative Space" where we can learn, explore, and share space science and technology.

As a creator of techno-scientific content, I share my experiences as a woman in STEM, an engineer, and a space enthusiast. My goal is to pursue space dreams, support enthusiastic interest in technology and space, and motivate future researchers. I am thrilled to share this experience at the IAC and continue contributing to the world of space!

#### Minh LE



Minh Lê received a BS degree in Astronomy and Astrophysics from Florida Tech and is now pursuing a Ph.D. in Mechanical Engineering at Johns Hopkins University, specializing in the mechanics of hypervelocity impact on rubble

At Florida Tech she studied a B-type binary star system and had the opportunity to present posters on her work at the Florida Academy of Sciences in 2019 and 2021. As the president of the Students for the Exploration and Development of Space chapter at Florida Tech, she organized technical workshops and aided members in attending SpaceVision 2019. Minh was part of the L'SPACE NASA Proposal Writing and Evaluation Experience Academy where she co-wrote a proposal for ISRU on the Moon that was among the award-winning proposals in the academy. After graduation, Minh participated in the Young Scientist Program of the Blue Marble Space Institute of Science where she studied the possibilities of extinct or extant life throughout Martian history. These opportunities ignited her desire to follow the applied research path and aid with future space missions. Minh has given presentations on her Ph.D. work on hypervelocity impact experiments at the Lunar and Planetary Science Conference and Mach Conference.

Minh believes that space studies and exploration should be a collaborative effort not only between nations, but also between commercial companies and government agencies to share knowledge, enable technology development, and allow humanity to advance faster in this space-faring journey.









# TIDENTS & YOUNG

#### Trishna SHRESTHA

I graduated with a Bachelor's degree in Electrical and Electronics Engineering from Kathmandu University, Nepal. Currently, I work as a satellite research fellow at Antarikchya Pratisthan Nepal. I have been involved in multiple CubeSat projects, primarily focusing on hardware system designs. I had the opportunity to lead the Electrical Power System of Munal, Nepal's first 1U High School CubeSat, and mentored high school students in its development. Additionally, I am one of the system engineer of the APN LoRa Payload, a project selected for the first payload hosting initiative by UNOOSA and MBRSC. Currently, my work is related to improvising the CubeSat bus system.

As part of APN's outreach program, I've helped design the Educational Satellite (E-cube), which aims to educate school students from grade 7 and above, reaching over 1000 students from different schools across Nepal. Currently, our focus is on capacity-building initiatives, and collaboration for space resources development in Nepal. And International cooperation plays a crucial role in facilitating these efforts.



#### Vanmitha ATHIMOOLAM

Vanmitha Athimoolam, a process engineer from UMW Aerospace Sdn Bhd visionary entrepreneur at the forefront of the space industry. Graduating with honors from Universiti Sains Malaysia (USM) with a degree in Aerospace Engineering, Vanmitha's fascination with space exploration began at a young age, fuelled by countless hours spent watching rocket launches and studying the cosmos.

Her passion for aerospace, led her to participate in various competition projects, including the development of sounding rockets and satellites. Under her leadership, Malaysia made its inaugural participation in the world's largest student rocket launch competition, Spaceport America Cup 2022 where they designed, built, and launched Malaysia's first ever student made sounding rocket. In the year 2023, she achieved another vision of hers making the rocket 100% made in Malaysia that was launched in Spaceport America Cup 2023. Driven by her passion in rocketry, she founded Wau Rocketry in USM, that aims to a become a platform for the students to get exposure and experience of rocket science. Vanmitha's never give up mindset has also set her on a journey of reaching for stars where she emerged as the first Malaysian to get selected as a Career Astronaut Candidate by AdvancingX.

Driven by a desire to turn dreams into reality, Vanmitha launched her own startup, Wau Holdings. Through her leadership and dedication, Vanmitha is shaping Wau Holdings into a beacon of innovation and environmental stewardship in the space industry, inspiring others to join the mission to make space travel greener and more sustainable.



Yumna Majeed is a dedicated Space Educator and the founder of Exploration, a STEAM Education organization with a focus on outer space, actively promoting astronomy and space technology in Pakistan since 2016. She firmly believes that every child should have their space-related questions addressed, a need often overlooked in traditional classrooms. To address this gap, she collaborates with various international space organisations, bringing the wonders of the cosmos directly into classrooms. Her organisation, Exploration, provides a diverse array of space-centered learning experiences designed to ignite curiosity and showcase the wide range of subjects and opportunities in STEM fields. Through her programs, Yumna has engaged over 15,000 students all over Pakistan.

At the Space Generation Advisory Council, Yumna has served as an NPOC for Pakistan and currently serves as Asia Pacific Regional Partnerships Manager. Yumna has received Asia Pacific Space Leadership Award 2019 and Global Rising Star Award 2022. Her commendable efforts have earned her the Pride of Pakistan Award, the prestigious Diana Award, and international recognition as a champion for Gender Equality in Space by the United Nations Office of Outer Space Affairs.

Yumna Majeed, a Medical Lab Technologist, graduated from Allama Iqbal Medical College, Lahore.

#### 1.3.3 Future Space Leaders (FSL) Grant Programme

The Future Space Leaders Foundation (FSLF) is pleased to announce the 2024 Future Space Leaders Grant Program. Intended for U.S. graduate students and young professionals who are pursuing space- and satellite-related careers, the program will provide grants for participation in the 75<sup>th</sup> International Astronautical Congress (IAC) to be held in Milan, Italy, 14-18 October 2024. In addition to attending the IAC, Grant Recipients will also be involved in supplementary career development activities in Milan. These IAC-associated events include the Cross-Cultural Presentation Workshop, the United Nations/International Astronautical Federation (IAF) Workshop and the Young Professionals Workshop.



**Nicholas FLORIO** is an incoming Systems Engineer at Lunar Outpost working on the Lunar Dawn LTV, a nextgeneration rover for mobilizing Artemis astronauts. He has a passion for and a personal life mission in advancing human space exploration and increasing accessibility to space as well as STEM education. Outside of work, Nicholas is an active member and former Co-Lead of SGAC's Commercial Space Project Group (CSPG), the Commercial Space Consulting Manager for AstroAccess, the Education Department Head for Deep Space Initiative (DSI), and a current Professional Masters student focusing on Bioastronautics from CU Boulder. In addition, Nicholas mentors middle and high school students with STEM in space projects and college students with space design challenges and career development. Previously, he was working as an SLD Lunar Dust Mitigation Systems Engineer responsible for the Internal and EVA systems of Blue Origin's MK2 Crewed Artemis Lander, as well as a Fault Management and System Autonomy (FMSA) engineer for Blue Origin's MK1 Lunar Lander. Nicholas started his career at Lockheed Martin Space involved in military satellite communications and human lunar and Martian space architecting. He holds a dual B.S./ M.S. in Electrical Engineering from Villanova University.



**W. Garrett LEVINE** is a PhD candidate and DoD NDSEG fellow at Yale University whose research lies at the intersection of astrophysics and planetary geoscience. He studies the astrodynamics and detectability of small, fast-moving near-Earth objects towards robust planetary defense solutions and the interaction between planetary systems and their space weather environments. Outside of his research, he is passionate about promoting scientific literacy in the Northeast by organizing outreach talks for Yale Science in the News, a graduate student organization. Garrett obtained a B.S. in physics and planetary science from Caltech in 2018 and M.S. and M.Phil. degrees in astronomy from Yale in 2023. Between his undergraduate and graduate studies, he worked on the equity derivatives structuring team at Bank of America Merrill Lynch.



**Golda NGUYEN** is a PhD candidate in Aeronautics and Astronautics at the Massachusetts Institute of Technology (MIT). At MIT, Golda conducts research at the intersection of bioastronautics, behavioral science, and humancomputer interaction to build human-centered AI for supporting behavioral health in isolated, confined, and extreme environments in space and on Earth. Golda received her Master's degree in Aeronautics & Astronautics from MIT and her Bachelor's degree in Mechanical Engineering from Georgia Tech, and she has worked to bridge research knowledge with operational experience in human spaceflight through internships at SpaceX, Blue Origin (as a Brooke Owens Fellow), Virgin Galactic (as a Matthew Isakowitz Fellow), and NASA..



**Kanak PARMAR** is an Astrodynamics, Satellite Navigation, and ML/AI Specialist at Advanced Space. Concurrently, she is also a PhD student at Auburn University, with a research focus on cognitive inspired architectures for autonomous spacecraft navigation. Her technical expertise encompasses multi-body dynamics, space mission design, trajectory design and optimal control, and the strategic adaptation of AI/ML technologies from a myriad of academic realms into traditionally formulated spaceflight practices. Kanak has a Master's Degree in Aerospace Engineering, with the work introducing a novel approach for generalized spacecraft path-planning via human intelligence cloning and cognitive insights.



James RAGAN is a PhD Candidate in space engineering at Caltech. His current research focuses on applying planning methods to enable fast and autonomous fault estimation onboard spacecraft subjected to unmodeled dynamics or adversarial attacks, or in safety critical scenarios. His vision is to use these capabilities to enable more ambitious missions that would otherwise be too risky. His initial publication on this subject received the Best Guidance Navigation and Control Student Paper award at the 2023 AIAA SciTech Forum. James has received a M.S. in space engineering from Caltech and previously received B.S. degrees in Aerospace Engineering as well as Astronomy and Physics from the University of Washington, where he was an Astronaut Scholar and led the propulsion team of the 2019 Spaceport America Cup champions..









STUDENTS & YOUN PROFESSIONALS EVENTS

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SOCIAL





**Kojo SARKODIE** is currently a Payload Systems Engineer (PLSE) at Boeing Space, Intelligence & Weapon Systems where he specializes in Radio Frequency. At Boeing he leads a team in the execution of PLSE activities for the Integrated Phased Array where his role involves defining antenna requirements, design trades, developing array calibration techniques, and analyzing multi-beam array techniques. Kojo is a passionate advocate for Science, Technology, Engineering, and Math outreach. He engages in a number of engineering community service activities focused on technical development, research, and advocacy. He served as Deputy Director of the Aerospace Group at the National Society of Black Engineers and is a Founding Partner of the Zed Factor Fellowship Program. Kojo holds a B.S. in Biomedical Engineering from The University of North Texas.



**Saba SHAIK** is a Ph.D. candidate in the Space Propulsion Laboratory at the Massachusetts Institute of Technology (MIT). Her doctoral research focuses on electrospray thrusters, a miniature type of ion propulsion that enables ultraprecise maneuvers for small spacecraft. After completing her Ph.D., Saba hopes to continue developing advanced propulsion technologies that expand our ability to traverse outer space. Saba is passionate about advancing gender inclusivity in the aerospace industry, mentoring the next generation of space professionals, and sharing her excitement for STEM through teaching and outreach efforts at MIT. She holds an M.S. in Aeronautics and Astronautics from MIT and a B.S. in Aerospace Engineering from the Georgia Institute of Technology.



**Hannah TOMIO** is a Ph.D. candidate and NASA Space Technology Graduate Research Opportunities (NSTGRO) fellow in the Department of Aeronautics and Astronautics at MIT. As a member of the Space, Telecommunications, Astronomy and Radiation (STAR) Lab, her research focuses on developing miniaturized laser instruments suitable for small satellite platforms for communications and remote sensing applications. Prior to coming to MIT, she received a B.S. in Electrical and Computer Engineering from Carnegie Mellon University and an M.Eng. in Aerospace Engineering from Tohoku University in Sendai, Japan. In addition to research, she enjoys learning languages, snowboarding, and running along the Charles River.



**Ryan UDELL** is a Program Manager in the Boeing Chief Technology Office, responsible for enabling the development of execution strategy and program management excellence across the Boeing global technology enterprise. He is a graduate of the Boeing Satellite Systems Engineering Rotation Program where he worked as a systems engineer for the Experimental Systems Group, as a propulsion and electrical engineer for the Space Launch System Core Stage and Exploration Upper Stage, and as the Chief of Staff for the Space, Intelligence, & Weapon Systems Functional Integration Chief Engineer. Additionally, he supported numerous other space programs at Boeing including the International Space Station. Excited to empower the next generation, he is a Founding Partner of the Zed Factor Fellowship, an internship and community engagement program for students who hail from historically excluded communities interested in aerospace. In 2021, he was selected for Aviation Week Network's 20 Twenties, recognizing exceptional aerospace students for their contributions to the industry.

#### 1.4 IAF Cross-Cultural Communications and Presentation Workshop

Date:	Sunday 13 October 2024
Time:	08:15 - 13:30
Venue:	Green Hall 3, Level -1, North Wing, MiCo Conventio

The Cross-Cultural Communications and Presentation Workshop is organized for Emerging Space Leader grant recipients and Next Generation Plenary speakers to provide them with the opportunity to improve their oral skills for their presentations and to sensitize them to the issues of speaking at large multi-cultural events.

#### Session presenters:



Scott Madry is a corresponding member of the International Academy of Astronautics and is a professor emeritus of the International Space University and research associate professor at the University of North Carolina at Chapel Hill. He has been doing international teaching and research for some 30 years in remote sensing, regional environmental and cultural analysis, and disaster management, and is interested in effective international communications and presentation skills. He is the author of eight books on space and related subjects.

#### **Carol CARNETT**



Carol Carnett is an attorney and a teacher of English to Speakers of Other Languages. She is Director of English Programs for the International Space University Summer Space Studies Program and Southern Hemisphere Space Studies Program, where she teaches English language skills, including writing and presentation workshops focused on effective English communication in international meetings and conferences.







#### tion Centre

STUDENTS & YOUNG PROFESSIONALS EVENTS

ASSOCIATED EVENTS

SOCIAL

STRONAUTS CHAPTER

PUBLIC DAY



#### **Associated Events** 2

#### 2.1 IAF IDEA "3G+" DIVERSITY PROGRAMME



#### INTERNATIONAL PLATFORM FOR DIVERSITY AND EQUALITY IN ASTRONAUTICS

3G GEOGRAPHY . GENERATION . GENDER

"Brilliant minds don't have Age, Gender, Nationality or Handicap. Take the best of all and give diversity a chance!" Jean-Yves Le Gall, IAF President

With the aim of promoting and advancing the principles of "3-G+" (Geography, Generation, and Gender) Diversity amongst a global space community the IAF has established an International Platform for Diversity and Equality in Astronautics (IDEA).

The IAF welcomes delegates to participate in the IAC Diversity Activities and benefit from an intensive and open exchange on diversity and equality aspects within the IAF, amongst IAF member organizations as well as other organizations promoting diversity.

#### 2.1.1 IAF IDEA "3G" Diversity Breakfast

Date:	Wednesday 16 October
Time:	08:00 - 08:45
Venue:	MiCo Convention Centre
Location:	Tower Lounge, located on Level 2 SW of the MiCo South Wing

As an important element of the IAF "3G" Diversity Day the IAF welcomes all delegates to the IAF IDEA "3G" Diversity Breakfast sponsored by Jet Propulsion Laboratory (JPL).

The event will be opened with a welcome by the IAF President, Clay Mowry, followed by an introduction from Mishaal Ashemimry, IAF VP for Diversity Initiatives, and Aerospace Consultant & Special Advisor to CEO at the Saudi Space Agency.

Larry D. James, NASA Jet Propulsion Laboratory Deputy Director, will then take the floor to present how diversity is promoted within his organization and how much the space community might benefit from a more diverse environment.

To further deepen the topic discussed questions from the public are welcomed.

Sponsored by: Jet Propulsion Laboratory



#### Programme:

08:00 - 08:05 Welcome Remarks

Clay Mowry,

President, International Astronautical Federation (IAF), France



Mishaal Ashemimry, IAF VP for Diversity Initiatives, International Astronautical Federation (IAF)

08:05 - 08:20

Presentation by Sponsor - "Women in Space" Laurie Leshin, Director of Jet Propulsion Laboratory (JPL)s

08:20 - 08:45 Networking

#### 2.1.2 IAF Excellence in "3G" Diversity Award Luncheon & "Modern Space Leaders" Panel (Upon invitation only)

Date:	Wednesday 16 October
Time:	12:30 - 13:30
Venue:	MiCo Convention Centre
Location:	Tower Lounge, located on Level 2 SW of the MiCo

Sponsored by: European Space Agency (ESA)



The IAF Excellence in "3G" Diversity Awards recognize IAF member organizations (industry, government, academia) worldwide for outstanding contributions to the fostering of "3G" (Geography, Generation, Gender) Diversity within the space sector.

The highest standards in "3G" Diversity can be achieved both by organizations and within teams' activities. To correctly represent this the IAF Honours and Awards Committee (HAC) decided to divide the IAF Excellence in "3G" Diversity Awards in two corresponding categories.

This Luncheon is dedicated to the award ceremony for the 2024 IAF Excellence in "3G" Diversity Awards, bestowed to The Karman Project and the NASA Indigenous Community-Based Education (CBE) Program.

The Karman Project



"A steadfast commitment to all pillars of diversity is central to this vision, understanding that the future success of the sector relies on inclusive participation, diverse representation and meaningful cooperation"













South Wing



SSOCIATED EVENTS







#### NASA Indigenous Community-Based Education (CBE) Program



"These programs bring Indigenous Knowledge and Western STEM together in a community-based way to support the development of learners' cultural and STEM identities"

#### Programme:

12:30 - 12:31	Welcome Remarks
	Clay Mowry,
	President, International Astronautical Federation (IAF), France

#### 12:31 - 12:40 IAF Excellence in "3G" Diversity Award Ceremony Asanda Sangoni, IAF VP for Honours and Awards, International Astronautical Federation (IAF), South Africa





12:40 - 12:15	Presentation by Sponsor
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#### Josef Aschbacher,

Director General, European Space Agency (ESA)

#### John McFall,

Astronaut, European Space Agency (ESA)









#### 2.2 14<sup>th</sup> IAF International Meeting for Ministers and Members of Parliaments (Closed Meeting)

Sunday 13 October 2024
09:30 - 16:00
Aula Consiliare, Pirelli Tower, seat of the Lombard
Via Fabio Filzi, 22, 20124, Milan, Italy

#### Space the Indispensable Ally for Decision-Makers

y 13 Octob	per 2024
	The Meeting will take place in the Aula Consiliare of
	Welcome Coffee
	Group Picture
	Welcome Remarks
	• Minister Adolfo Urso, Minister for Enterprises and Meeting for Ministers and Members of Parliame
	Clay Mowry, President, International Astronau
	• Hon. Andrea Mascaretti, Head, Italian Space Deputies, Host Country of the 14 <sup>th</sup> IAF Internatio
	• Federico Romani, President of the Council of the Meeting for Ministers and Members of Parliame
	• Attilio Fontana, President of the Lombardy Reg Ministers and Members of Parliaments (TBC)
	• Dominique Tilmans, Special Advisor to the IAF I Master of Ceremony of the 14 <sup>th</sup> IAF MMoP Meet
	Session 1: The sustainability of space activities nee
	To maximize the benefits of current space application and protect the outer space environment. This goal of standards to ensure safe practices in space. Nor will allow actors to promulgate new applications to future generations.
	Duccenteries and Medeustics by Teedawa Valente I

Presentation and Moderation by Teodoro Valente, President, Italian Space Agency (ASI) Intervention by Ministers and Members of Parliaments Roundtable Discussion

11:15

10:15

Sunda

09:00 09:25

09:30

ASSOCIATED EVENTS

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The climate crisis is one of the most important global challenges of our time, impacting ecosystems, economies and societies around the world. Earth observation technology and space solutions play a key role in this effort, providing crucial data to monitor and respond to the impacts of climate change and not only.

Global policymakers are increasingly integrating it into their management, whether it is water, energy, the fight against deforestation, air pollution, agriculture, public services, health, etc. Space solutions are valuable help to manage a country, a region, a city and develop new business activities.

Presentation and Moderation by Simonetta Cheli, Director of Earth Observation Programmes and Head of ESRIN, European Space Agency (ESA) Intervention by Ministers and Members of Parliaments

Roundtable Discussion









dy Region Council

of the Pirelli Tower, seat of the Lombardy Regional Council

and Made in Italy, Host Country of the 14th IAF International nents

#### utical Federation (IAF)

Economy Parliamentary Inter-Group, Italian Chamber of ional Meeting for Ministers and Members of Parliaments

e Lombardy Region, Host Country of the 14th IAF International nents

gion, Host Country of the 14<sup>th</sup> IAF International Meeting for

President on Parliamentarian and Ministerial Relations and eting, International Astronautical Federation (IAF)

#### eds the international coordination

ions and innovate new technologies, it is crucial to preserve al requires international coordination and the establishment orms and improved understanding of safe practices in space help study, track, understand, and protect planet Earth for

#### Session 2: Climate Change – Space solutions, the key at all levels: national, regional, urban and rural

SSOCIATED EVENTS





12:15			
	Session 3: Risk and Disaster Management – Space solutions, a response in the disaster management cycle helping Decision-Makers	09:00 - 10:00	Plenary Event 3: New L Auditorium, MiCo Conv
	With the rise in extreme natural events, the ability to monitor vast regions, predict weather, and evaluate damage after disasters has become crucial for all administrations. Fortunately, space solutions offer quick and dependable tools to mitigate and prevent such disasters. Therefore, recognizing the vital role of space in risk	10:00 - 12:30	Free time to visit the E Programme
	management and fostering cooperation to access space solutions is now essential for policymakers.	12:30 – 13:30	Industry VIP Luncheon
	Presentation and Moderation by <b>Rodrigo Da Costa</b> , Executive Director, European Union Agency for the Space Programme (EUSPA)		Tower Lounge, MiCo C
	Intervention by Ministers and Members of Parliaments		
	Roundtable Discussion		
13:15	Closing Remarks		
	<ul> <li>Hon. Andrea Mascaretti, Head, Italian Space Economy Parliamentary Inter-Group, Italian Chamber of Deputies, Host Country of the 14<sup>th</sup> IAF International Meeting for Ministers and Members of Parliaments</li> </ul>		
	• <b>Dominique Tilmans,</b> Special Advisor to the IAF President on Parliamentarian and Ministerial Relations and Master of Ceremony of the 14 <sup>th</sup> IAF MMoP Meeting, International Astronautical Federation (IAF)		
13:30	Lunch Break		
14:30	14 <sup>th</sup> IAF MMoP Event Press Conference (upon request by MMoP Participants)		
19:00	IAF International Meeting for Ministers and Members of Parliaments Cocktail and Dinner Belvedere Terrace, Palazzo Regione Lombardia Viale Francesco Restelli 6, 20124 Milan, Italy		
Monday 14 (	October 2024		
	The IAC 2024 will take place in the MiCo Allianz Convention Centre located in Piazzale Carlo Magno, 1/Gate 16, 20149 Milano MI, Italia		
08:30 - 09:15	VIP Gathering – TBD, MiCo Convention Centre (IAC 2024 venue)		
09:30 - 11:00	IAC 2024 Opening Ceremony Gold Hall, MiCo Convention Centre Reserved VIP Seats for the MMoPs		
11:15 - 12:15	Exhibition Opening		
12:30 – 13:30	VIP Luncheon – Tower Lounge, MiCo Convention Centre		
13:45 – 15:15	Plenary Event 1: One to One with Heads of Agencies Auditorium, MiCo Convention Centre		
15:15 – 18:00	Free time to visit the Exhibition and attending the IAF GNFs Sessions		
	Plenary Event 2: Responsible and Sustainable Space Exploration: Moon to Mars		
18:15 – 19:15	Auditorium, MiCo Convention Centre		
19:30 – 22:30	Auditorium, MiCo Convention Centre IAC 2024 Welcome Reception		

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#### rontiers: How the Non-Space Industry is Unlocking Future Markets

on and attending the IAF GNFs Sessions and other portions of the IAC 2024







2.3 IAC H	osts Summit – 11 <sup>th</sup> EDITION	Pitch Presentation	IAC 2027
	y 13 October 2024		• Poznar
	– 13:00 Hall, MiCo Convention Centre	Fireside Chat	Transcen
enue: Silver Fime:	Programme		The IAF's ac success for paradigm si
Opening	Welcome Address by IAF President     Clay MOWRY, President, International Astronautical Federation (IAF)		values have
	Opening Remarks by Master of Ceremony	Moderator:	Christie
	Jan KOLAR, Chair of IAF Committee and Symposia Advisory Committee (CSAC) Opening Remarks by Sponsor	Panellists:	- Mishau for Div - Pascalu Commi - Jean-W
	SUBJECT Control Lan 深空探测实验室		Nation - Clay M
Keynote	Heifei: A Journey of Discovery and Innovation	Closing	Closing Ren
	• <b>Mr. LIU Peng,</b> Director of the Foreign Affairs Office of Hefei Municipal People's Government, China		Group Phot
	GHEFE P	13:00 - 14:00	IAC Hosts S
Keynote	<b>Demystifying the IAC Bid Process: How to Get Bid Ready</b> A critical factor in bidding for an IAC is time – the process requires meticulous planning and careful time management. Let's have a closer look at best practices and how to apply them consistently to meet tight deadlines and ensure competitive IAC Bid proposals.		
	• Christian FEICHTINGER, Executive Director, International Astronautical Federation (IAF)		
Panel Discussion	A Multidisciplinary Perspective on Arising Opportunities and Challenges for Hosting the IAC		
	The recent IAC editions have placed strong emphasis on the vital importance of sustainable and inclusive strategies. Considering the considerable experience garnered in hosting the World's Premier Global Space Event, this session will explore the various approaches for delivering a successful IAC and how IAC Hosts found themselves juggling multiple obstacles as these are also an integral part of the journey.		
Moderator:	• Steve EISENHART, Senior Vice President, Space Foundation / IAF VP for Global Networking Forum		
inellists:	- <b>Samaddin ASADOV,</b> Chairman of the Board, Azercosmos Space Agency of the Republic of Azerbaijan, Chairman for IAC 2023, Baku, Azerbaijan		
	<ul> <li>Erasmo CARRERA, President, Italian Association of Aeronautics and Astronautics (AIDAA) / Chairman of IAC 2024 Milan, Italy</li> </ul>		
	<ul> <li>Yusuf KIRAÇ, President and Chairman of the Board, Turkish Space Agency (TUA), Chairman for IAC 2025 Antalya, Türkiye</li> </ul>		
	- Lionel SUCHET, Chief Operating Officer, Centre National d'Etudes Spatiales (CNES) / IAF VP for Technical Activities, IAC 2022 LOC, Paris, France		
	- Lisa VITARIS, Interim CEO   Director, IAC 2025 Sydney, Space Industry Association of Australia (SIAA)		
	Coffee break		

ASSOCIATED EVENTS







tion (ESF)

#### for Collective Responsibility

of diversity, equity, inclusion, and accessibility have been a ronautical Congress over the past decade and represents a ow the Federation is breaking down barriers and how 3G+ progress and innovation at the IAF.

ernational Astronautical Federation (IAF)

& Special Advisor to CEO, Saudi Space Agency (SSA) / IAF VP

019-2022) and Honorary Ambassador / President of

2019) and Honorary Ambassador / Former President Centre

autical Federation (IAF)



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#### 2.4 UN/IAF 31<sup>st</sup> Workshop on Space Technology for Socio-Economic Benefits: "Space Sustainability as a Game-Changer for Development"

Date:	11 - 13 October 2024
Time:	09:00 -
Venue:	MICO Convention Centre, Blue Hall 2

Organized by:





SUSTAINABLE GOALS

#### INTRODUCTION

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 on the theme "Space Sustainability as a Game-Changer for Development."

The workshop takes place at the venue of the 75<sup>th</sup> International Astronautical Congress (IAC) and the theme of the Workshop is aligned with the theme of the Congress: "Responsible Space for Sustainability."

The purpose of the Workshop is to bring together people from either government, space agencies, research institutes, academia, or non-governmental organizations who prepare and carry out space activities and are specifically interested in making space activities sustainable, so that their benefits on Earth will continue to be provided to future generations. Those who are interested in building partnerships, notably to raise awareness of initiatives about sustainability of the space environment or capacity building activities about reducing the impact of the space industry on the Earth environment are also particularly welcome to participate.

The Workshop will be hosted by the Italian Space Agency (ASI), and held in Milan, Italy, from 11 to 13 October 2024.

#### WORKSHOP OBJECTIVES

Space applications are a game-changer in many sectors of the economy, and they have revolutionised the way services essential for socio-economic development are provided in many areas, from agriculture to transport or telecommunications. However, for these benefits to remain available, space activities themselves need to be sustainable. The concept of sustainability will be addressed from several angles, looking at how to ensure that activities in space will remain feasible for all stakeholders in the long-term despite the strong increase of the number of objects in Earth orbit, looking at how to make the space industry itself more aligned with environmental concerns on Earth, and looking at how space-based tools are essential enabler for sustainability initiatives on Earth.

The Workshop will provide a platform for discussion about how to

increase capabilities in a sustainable way, explore innovative technologies and approaches to reduce the contribution of the space industry itself to the climate crisis, and increase awareness of technical means to improve the long-term sustainability of outer space activities. The Workshop will provide a platform for discussion about technical solutions already in use so that the benefits that space activities offer remain available in a wide range of applications. The main objectives of the Workshop are to:

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- 1. Raise awareness of the various initiative to measure and predict the impact of space activities (spacecraft manufacturing, launch and re-entry) on the Earth environment;
- 2. Showcase changes in space engineering practices to reduce the carbon footprint of the space sector overall, with technical innovations for greener technologies, financing of innovations and regulatory incentives for their adoption;

- 3. Capacity building activities on space sustainability, especially from the perspective of new space faring countries and non-space faring countries keen to adopt best practices and preserve the sustainability of the space environment;
- 4. Share challenges and success stories to de-orbit spacecraft responsibly, such as technical de-orbiting methods and tools, to discuss what methods are the most effective;
- 5. Showcase success stories of technical coordination for space activities that have been impacting each other, such as astronomical observations and satellites operations, or activities of various nature on the surface of the Moon and Mars
- 6. Share information on innovative space-based applications and services contributing to environmental sustainability on Earth.

Presentations made during the Workshop will be published on the website of the Office for Outer Space Affairs, while the report of the Workshop and its recommendations will be distributed to the participants and to the UN Committee on the Peaceful Uses of Outer Space.

#### PROGRAMME

	Day 1: Friday 11 Octob	er 2024	
09:00 - 10:00	Registration and refreshments		
10:00 - 10:15	Opening ceremony		
	<ul> <li>Aarti Holla-Maini, Director, United Nations Office</li> <li>Clay Mowry, President, International Astronautica</li> <li>H.E. Debora Lepre, Permanent Representative of t</li> </ul>		
10:15 - 10:45	5 Setting the scene		
	<ul> <li>Nathalie Ricard, Scientific Affairs Officer, United N</li> <li>Christian Feichtinger, Executive Director, Internation</li> <li>Teodoro Valente, President, Italian Space Agency (</li> <li>Erasmo Carrera, President, Italian Association of A</li> <li>Masami Onoda, IAF Committee for Liaison with In CLIODN)</li> <li>Matías Campos Abad, IAF Committee on Connection</li> </ul>	onal Astronautical Federation (IAF) (ASI) Aeronautics and Astronautics (AIDAA) Aternational Organisations and Developing Nations (IAF	
10:45 - 11:00	Group photo		
11:00 - 12:00	Session 1: Assessing and reducing the impact of space activities on the environment		
	Chair: Pieter van Beekhuizen, IAF CLIODN		
	Environmental impacts throughout a satellite megaconstellation lifecycle	Samantha Lawler, Outer Space Institute and University of Regina, Canada	
	Remove before launch space debris accumulation on Point Nemo and Antarctic ecosystems	Victoria Fernanda Valdivia Cerda, Academia Nacional de Estudios Políticos y Estratégicos (ANEPE), Chile	
	Sustainable data practices in climate research	<b>Ryan John McCall Laird,</b> Green Orbit Digital, United Kingdom	
	The polluting potential of space debris demise in the atmosphere: the case of aluminum	José Pedro Ferreira, Portugal, University of Southern California, USA	
	Dark and quiet sky: a wake-up call for the New Space Economy	<b>Piero Benvenuti, Italy,</b> International Astronomical Union Centre for the Protection of the Dark and Quiet Sky from Satellite Constellation Interference	









#### 12:00 - 13:00 Lunch break 13:00 - 13:15 Pitch: Solutions to reduce the environmental impact of space activities • Lisa Stefani Vitaris, Space Industry Association of Australia • Geovian Tadzi Stower, Kenya Space Agency 13:15 - 14:15 Panel 1: Solutions to reduce the environmental impact of space activities Moderator: Nathalie Ricard, United Nations Office for Outer Space Affairs (UNOOSA) • Guia Pastorini, Leonardo, Italy • Aytan Zeynalli, Space Agency of the Republic of Azerbaijan (Azercosmos) Giao Minh Nguyen, Promethee Earth Intelligence, France • Tensae Alemayehu Ali, CubeSpace and IAF ACCESS African Subcommittee, Ethiopia • Muhamad Nurazmi Bin Abas, Gading Group Berhad and Malaysia Space Industry Consortium (MASIC), Malaysia 14:15 - 14:45 Coffee break 14:45 - 15:00 Project pitch • Florent Morice Mtuka, Ministry of Information, Communication and Information Technology, Tanzania • Ruvimbo Samanga, Milo Space Science Institute, Zimbabwe • Anna Hurova, Koretsky State and Law Institute of National Academy of Sciences of Ukraine 15:00 - 16:15 Panel 2: Legal best practices for space sustainability Moderator: Masami Onoda, IAF CLIODN and Japan Aerospace Exploration Agency Lulekwa Makapela, National Earth Observations and Space Secretariat (NEOSS), South Africa • Beauler Wozhele, Law Space Africa, Zimbabwe • Motolani Deborah Fadahunsi-Banjo, National Space Research and Development Agency (NASRDA), Nigeria • Zuzanna Kulińska-Kępa, University of Warsaw, Faculty of Law and Administration, Manfred Lachs Center for Space Law, Poland • Andrew Ratcliffe, UK Space Agency 16:15 - 17:30 Networking Day 2: Saturday 12 October 2024 00.00 10.00 Desistant .

09:00 - 10:00	Registration and refreshments	
10:00 - 10:15	<b>Keynote "The Dark Side of Space: addressing the space debris crisis"</b> by <b>A.K. Anil Kumar</b> , IAF Vice President for Relations with International Organizations	
10:00 - 10:15	Session 2: Space situational awareness and collision avoidance	
	Chair: Matias Campos, IAF ACCESS and Astralintu, Ecuador	
	Space traffic coordination for sustainability	<b>Richard DalBello,</b> NOAA Office of Space Commerce, USA

	Ecosmic: on a mission to scale satellites' software infrastructure	Benedetta Margrethe Cattani, Ecosmic, Italy			
	Empowering SSA: policy solutions	Geetanjali Ramanand Kamat, Digantara Research and Technologies Private Limited, India			
	Investigation and modeling of space weather effect on space-based objects for orbital sustainability in low Earth orbit	<b>Victor Uchenna Jonathan Nwankwo, Nigeria,</b> German Aerospace Center (DLR), Germany			
	Development of the national SSA system	<b>Gulnara Omarova,</b> Fesenkov Astrophysical Institute, Kazakhstan			
11:30 - 12:30	Panel 3: Manufacturing and recycling in space	Panel 3: Manufacturing and recycling in space			
	Moderator: Craig D. Burkhard, NASA Small Spacecraft	Systems Virtual Institute, USA			
	<ul> <li>Nieves Cubo Mateo, Nebrija University, Spain</li> <li>Onur Çelik, Türkiye, Delft University of Technology</li> <li>Maximilian Maier, KINETIK Space, Germany</li> <li>Mekhi Dhesi, Astroscale UK</li> </ul>	, the Netherlands			
12:30 - 13:30	Lunch Break				
13:30 - 13:45	Project pitch				
	Mamonaheng Koenane, Impact School, Lesotho				
13:45 - 15:00	Session 3: Capacity building and raising awareness				
	Moderator: Christina Giannopapa, European Union Agency for the Space Programme (EUSPA)				
	Capacity building in space capabilities for national and regional benefit: lessons learned	Hiroki Akagi, Japan Aerospace Exploration Agency (JAXA), Japan			
	Capacity building for space sustainability in the Maldives	<b>Roman Alexander da Silva Curiel,</b> Surrey Satellite Technology Ltd., The Netherlands			
	Outreach and capacity building for sustainable space development: insights from Benin's experience	<b>Aia Hesham, E</b> gypt, Maldives Space Research Organization			
	Leveraging space enablers for capacity building and sustainable space development	<b>Prudence Ayivi,</b> Space Generation Advisory Council, Benin			
	Japan's contribution to the SDGs through KiboCUBE programme	Additional speaker to be announced			
15:00 - 15:15	Project pitch				
	<ul> <li>Afiq Herdika Sulistya, Surya Satellite-1 Project Tea</li> <li>Asinta Ntinda Manyele, Dar es Salaam Institute oj</li> <li>Yaqoob Alqassab, Bahrain National Space Science</li> <li>Husseinat Etti-Balogun, Nigeria, Kyushu Institute of</li> </ul>	f Technology, Tanzania Agency (NSSA), Bahrain			
15:15 - 15:45	Coffee Break				
15:45 – 16:00	Pitch: Sustainable lunar exploration				
	<ul> <li>Abdalla Shaker Tawfik Abdalla, Egyptian Space ag</li> <li>Rogelio Morales García, Agencia Bolivariana para</li> <li>Raghad Ali, Al-Balqa' Applied University, Jordan</li> </ul>				
16:00 - 16:20	Keynote by Teodoro Valente, President, Italian Space A	gency (ASI)			
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STUDENTS & YOUNG PROFESSIONALS EVENTS
ASSOCIATED EVENTS
SOCIAL EVENTS





16:20 - 18:00	Networking
18:00 - 20:00	<b>Reception</b> Yellow Hall 3, Level 1, North Wing, MiCo Convention Centre.

#### Sunday 13 October 2024 09:00 - 10:00 **Registration and refreshments** 10:00 - 10:10 Keynote "Towards a Zero Debris future" by Quentin Verspieren, European Space Agency (ESA) 10:10 - 10:45 Session 4: Space applications for sustainability on Earth Chair: Mami Sasamura, UNOOSA Sirikul Hutasavi, GISTDA, Thailand Dragonfly Using integrated GEO and LEO orbit satellite data in Nguyen Tien Cong, Vietnam National Space Center, on-grid solar power potential site selection in Vietnam Vietnam Adoption of communication satellites in south Sudan Zamba Leonel, South Sudan National Communication to bridge the digital divide Authority, South Sudan 10:45 - 10:55 Project pitch Camila Erazo Gonzalez, Youth leader at Colombian space agency/Lab & Law International Trade, Colombia • Wenceslao Bejarano Torres, Honduras, Kyushu Institute of Technology, Japan 10:55 - 11:40 Panel 4: Space applications for sustainability on Earth Moderator: Aarti Holla-Maini, Director, UNOOSA • Rodrigo da Costa, Executive Director, EU Agency for the Space Programme (EUSPA) • Sharif Islam, Bangladesh, Massachusetts Institute of Technology, USA • Meshack Kinyua, African Union Commission 11:40 - 12:00 Wrap-up 12:00 - 12:15 Closing ceremony • A.K. Anil Kumar, IAF Vice President for Relations with International Organizations Aarti Holla-Maini, Director, United Nations Office for Outer Space Affairs (UNOOSA) Alfonso Pagani, AIDAA and IAC-2024 International Program Committee co-Chair ٠ 12:15 - 12:30 Group photo 12:30 **END OF THE WORKSHOP** 12:30 - 13:30 Lunch

#### 2.5 22<sup>nd</sup> Space Generation Congress (SGC)

Date:	10 - 12 October 2024
Venue:	MiCo Convention Centre

#### THE GLOBAL SPACE CONGRESS FOR UNIVERSITY STUDENTS AND YOUNG **PROFESSIONALS INTERESTED IN TODAY'S KEY SPACE ISSUES**

The Space Generation Congress (SGC) is the annual meeting of the Space Generation Advisory Council always held in conjunction with the International Astronautical Congress (IAC) at the same hosting country. Every year, the SGC event receives about 150 outstanding students and young professionals who share a passion for space. Through the SGC, SGAC aims to give a voice to the young generation of space leaders so that they can share their opinions and perspectives concerning international space development. They are selected with a highly competitive application process open to our Space Generation international network. With SGC, SGAC aims to promote the voice of the next generation of space sector leaders on the topic of international space development.

The 22<sup>ND</sup> edition of the Space Generation Congress (SGC) aims to bring together the next generation of space leaders to discuss the two-folded dimensions of sustainability: in space and on earth. Under the title of "Ensuring Sustainability on Earth and in Space for our Shared Future," we invite you to join us in shaping a future where sustainability serves as the guiding principle in our journey to the stars.

#### SGC 2024 Programme

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The below schedule is a snapshot of what to expect at the SGC 2024. The schedule is in Milan local time (CEST). Please note that the below schedule is subject to change.

Please refer to the official SGC Website for the most updated version: https://spacegeneration.org/event/space-generation-congress-2024

Thursday 10 O	october 2024
08:00	Registration and Welcome Coffee
09:00	SGC Day 1 Welcome
09:45	Welcome Remarks from AIDAA, IAF and LEONARI
10:25	Working Group Time
11:50	Official Congress Picture
12:15	LUNCH BREAK
13:15	Working Group Time
14:50	Keynote: UK Space Agency
15:10	Keynote: NASA Earth Sciences Division
15:30	COFFEE BREAK by BlueDot
16:00	Interactive Activity: SGAC's 25th Anniversary
16:40	Award Ceremony: SGC 2024 Scholarship Winners
17:20	SGC Day 1 Closing Remarks with Telespazio
19:30	SGC INTERNATIONAL NIGHT by Telespazio - Venue







ASSOCIATED EVENTS



RDO

ie: Hard Rock Cafe



#### Friday 11 October 2024

08:30	Doors Open
09:00	SGC Day 2 Welcome
09:05	Keynote Nanoracks
09:20	Working Group Time
10:20	COFFEE BREAK by <b>HEO</b>
10:50	Working Group Time
11:35	Panel: Celebrating SGAC's 25th Anniversary
12:15	LUNCH BREAK
13:15	Keynote: VAST
13:35	Keynote: D-ORBIT
13:50	Mentoring Session
14:50	Working Group Time
15:50	COFFEE BREAK
16:20	Panel with BLUE ORIGIN: New Collaboration Approaches for Lunar Permanence
17:30	Keynote: LOCKHEED MARTIN
17:50	SGC Day 2 Closing Remarks with AIAA
19:00	SPACE NIGHT by AIAA – Venue: Parioli Garden

#### Saturday 12 October 2024

Jaculuay 1	
08:30	Doors Open
09:00	SGC Day 3 Welcome
09:10	Keynote: Agenzia Spaziale Italiana (ASI)
09:35	COFFEE BREAK
11:00	Panel: Heads of Space Agencies
12:20	Keynote: European Space Agency (ESA)
12:40	LUNCH BREAK by D-cubed
13:40	Keynote: NASA Exploration Systems Development Mission Directorate
14:00	Panel: Promoting Sustainable Practices in Space Missions
15:10	Award Ceremony: "Space Without Waste" Patch Design Competition
15:20	COFFEE BREAK
15:35	Working Group Presentations
17:05	Closing Remarks
19:00	Closing Dinner by VAST – Venue: Palazzo Parigi

#### 2.6 IAC 2024 IAF Public Speaking and Presentation Skills Lab

Date:	Sunday 13 October 2024
Time:	16:00 - 18:00
Venue:	Red Hall 1, Level 1, North Wing, MiCo Convention



#### Moderator:



Matías F. CAMPOS ABAD CEO & Founder, Astralintu Space Technologies, Vice-Chair, IAF Administrative Committee for Connecting Emerging Space ecoSystems (ACCESS), Ecuador

#### Introduction:

The International Astronautical Congress gathers people from all over the world to advance the space industry, academia, society, and government initiatives. Even if we do not like sales, the reality is that we are constantly selling and representing our personal, country, and organization's image. That is why harnessing the ability to speak in public is a fundamental tool for promoting ourselves, and our work.

#### Objective:

The main objective of the IAF PS Lab is to help each participant develop and improve their communication skills when speaking in public, overcome the stress derived from stage fright, improve self-esteem, learn to use appropriate and timely resources in different situations, adequately use body and language in speeches, learn to confidently address any audience, understand cultural considerations of an international crowd, and thus effectively get your message.

Throughout this workshop, participants will acquire the necessary skills to achieve effective and successful communication in the context of a high-level technology forum where space research and development initiatives are shared.

#### Who is IAF PS Lab for:

Speakers, students, scholarship awardees, and IAC participants and in general, who feel the need to overcome stage fright and improve their communication skills in public and private environments, to impact and persuade any audience and make the most of their time in the congress and maximizing their networking and presentations.

After PS Lab Participants will be able to:

- Present themselves with confidence
- Overcome stress derived from stage fright
- Use body and non-verbal language effectively
- Leave an impact and encourage future collaboration
- Navigate the cultural differences of an international crowd

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Centre

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#### Duration: 2 hours

30min - IAC Communication Best Practices and Lessons from Experience
30min - Elevator Pitch Session and Practice
50min - Lighting Presentations with live feedback
10min – Summary and Closing Remarks

#### The laboratory will include:

Practical teaching with dynamic forms of participation Helpful exercises and real on-stage experience Practice skills with real networking in smaller groups Learn from your peers

ASSOCIATED EVENTS

#### 2.7 IAF Global Space Leaders Summit "Space Capabilities for Sustainability on Earth"

#### Inaugural Meeting

Date:	Tuesday 15 October 2024
Time:	10:00 - 13:10
Venue:	Gold Hall, South Wing, MiCo Convention Center

In line with the IAF's motto 'Connecting @II Space People' and with the aim of fostering coordination and collaboration between space agencies around the world, the Federation is launching a new initiative: the IAF Space Leaders Summit. This Summit is designed to be a series of senior leader gatherings taking place in conjunction with the annual International Astronautical Congress (IAC).

The Summit will be a formal high-level closed meeting, running over two- and one-half hours, starting with an official welcome by the Italian authorities and co-chaired by the President of the Italian Space Agency, Prof. Teodoro Valente, and the President of the International Astronautical Federation, Clay Mowry. All global Heads of Space Agencies/Offices will be invited to participate in the Summit.

This year's Summit will focus on the topic of "Space Capabilities for Sustainability on Earth".

Invited Heads of Agencies will be given the opportunity to give a three to five minutes statement outlining their agency's contribution to the global system of space capabilities for sustainability on Earth.

Selected International Space Organizations will be also invited to attend the Summit as observers.

#### Master of Ceremony: :



Christian FEICHTINGER Executive Director, International Astronautical Federation (IAF), France

Opening of the Summit
<ul> <li>Welcome remarks by:</li> <li>Clay Mowry, President, International Astronau</li> <li>Teodoro Valente, President, Italian Space Agen</li> </ul>
Group Photo
Statements by Space Leaders
Closing of the Summit
<ul> <li>Conclusions</li> <li>Clay Mowry, President, International Astronau</li> <li>Teodoro Valente, President, Italian Space Agen</li> </ul>

Continuous coffee service will be available in the room A dedicated lunch will be offered in the room at the end of the Summit







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PUBLIC DAY



#### 2.8 IAF Investment Briefing: Space Business and Investment Trends

Date:	Tuesday 15 October 2024
Time:	09:15 - 10:45
Venue:	Panorama Lounge, MiCo Convention Centre

A briefing by leading industry analysts on space business trends and space market dynamics, and a discussion with industry leaders about investment in space, in the context of the major trends of space security and space sustainability, now and in the future.

#### Programme

#### Panel 1: Space Investment, Security and Sustainability

Moderator: Joe Landon, Special Advisor to the IAF President 09:15 - 10:00

#### Panelists:

- ٠ Agnieszka Lukaszczyk, IAF Sustainability Task Force Lead
- Carissa Bryce Christensen, IAF Investment Task Force Lead
- Victoria Samson, IAF Security Task Force Lead ٠

#### Questions:

Joe will describe the task forces and purpose of the SIS initiative, and generally what they've done so far. Joe will then ask each of the panelists to talk about their initiative area and how that relates to the future of the space economy.

1. Joe will ask the panelists questions at his discretion. Some topics might be:

- a. What are some of the most promising areas of growth?
- b. What are some of the barriers to success?
- c. What are some particularly important areas of the interplay among SIS?
- d. What are companies doing, what is IAF doing, what is the community doing, that might help to shape the future in these areas?

#### Panel 2: Space Market Dynamics

#### Panelists:

- Pacôme Révillon, CEO, Novaspace ٠
- Simon Potter, Managing Director, Bryce UK

#### Questions:

- 1. There has been a lot of discussion about the size of the space economy. What's your view on that and what's important about that discussion?
- 2. What parts of the space economy do you see growing in the near to mid-term? What's going to drive that growth?
- 3. What parts of the space economy do you think will face real challenges in terms of their growth? What are those challenges and how can they be addressed?
- 4. In last year's investment briefing, we had many young founders in the audience. From the perspective of someone who is thinking about a path as a founder, what seem like the most promising areas for startups going forward?
- 5. In addition to their role as customers, government agencies also shape the space economy increasingly as regulators. What do you think the most important aspects of government regulation in the future will be for businesses and growth?

What do you think is the most exciting aspect of the space economy today? Lightning round:

#### 2.8 2024 Humans In Space – Final Pitch Competition

Date:	Wednesday 16 October 2024
Time:	15:30 – 17:30
Venue:	Auditorium, Level 3 South Wing, MiCo Convention

The "2024 Humans In Space - Final Pitch Competition" at the IAC Congress represents a significant convergence of space and healthcare. This session serves as the culminating event of the 2024 Humans In Space (HIS) Challenge, a global initiative focused on transforming healthcare both in space and on Earth.

During this session, live presentations will be delivered by the HIS Challenge 2<sup>nd</sup> round winners -comprising researchers and startups from around the world - who are pioneering innovative approaches to address the unique health challenges encountered by astronauts. These teams are also utilizing the conditions of microgravity to develop solutions that have the potential to address pressing health issues on Earth. Each team will present their projects and engage in a question-and-answer session with a panel of esteemed evaluators, who will rigorously assess the feasibility, innovation, and potential impact of the proposals.

The final winners selected through this final pitch will be awarded with either equity investment or the exceptional opportunity to send their experiments into space through the HIS Orbital Launch Funding model. This initiative holds the promise of catalyzing significant advancements in space healthcare, with the potential to deliver breakthroughs that could greatly benefit humanity.

To provide additional context and insight, Boryung, a healthcare investment firm and the host of this initiative, will deliver a keynote address. This address will articulate the vision underlying the Humans In Space Challenge, its foundational objectives, and its aspirations to shape the future of healthcare in space.







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SSOCIATED EVENTS

<sup>10:00 - 10:45</sup> Moderator: Mike French, Founder, Space Policy Group



#### **Social Events** 3

#### Welcome Reception

Date: Monday 14 October 2024 Time: 19:30 - 22:30 Location: Hall 4, Level 2, South Wing, MiCo Convention Centre

Join us for a memorable evening as we kick off the IAC 2024 with a vibrant welcome reception. Experience a delightful culinary journey through Italy, featuring regional specialties from across the country. Enjoy live entertainment with a mix of performances, including a band, a DJ set, and a special piano and soprano moment that will add a touch of elegance to the night. It's the perfect occasion to network, relax, and immerse yourself in the Italian cultural atmosphere.

The evening will feature performances by Alessandro Carrera, Anna Federica Cocola, Federica Morra, Eugenio Quaglia, Elisabetta Isola, Marta Conte, Mustapha Mofaddel, Giacomo Piras, Simona Cocola, and a DJ set by FOOL'S PARADISE.

#### Gala Dinner

Date: Friday 18 October 2024 Time: 19:30 to 22:30 Location: , Gold Room, Level +2, South Wing, MiCo Convention Centre **Cost:** 200.00 € per person (VAT included)

The social event will host a fashion show designed by selected students from the Raffles Milan International Design Institute, the European hub of the largest independent design education network with 16 campuses worldwide, where students actively collaborate with faculty to create projects of hybridization, experimentation and research, breaking down homogenization and cultural, technological and geographic barriers.

Sponsored by:



Under the creative direction of Tiziano Guardini, about 26 students of the Raffles Milan International Design Institute will presents their garments designed especially for the show during the 75<sup>th</sup> IAC.

#### IAF Awards 2024 4

#### 4.1 IAF World Space Award

The IAF World Space Award is presented for an outstanding contribution or contributions in space science, space technology, space medicine, space law or space management of exceptional impact to the world's progress in astronautics.

The IAF World Space Award for 2024 (for teams) is bestowed to:



"Chandrayaan-3 mission by Indian Space Research Organisation exemplifies the synergy of scientific curiosity and cost-effective engineering, symbolizing India's commitment to excellence and the vast potential that space exploration offers humanity. Rapidly unveiling previously undiscovered facets of the Moon's composition and geology, the mission stands as a global testament to innovation. Achieving a historic milestone, Chandrayaan-3 becomes the first to touch down near the lunar South Pole, showcasing both aspiration and technological prowess on an international scale."

#### 4.2 IAF Excellence in International Cooperation Award

The IAF Excellence in International Cooperation Award is presented annually to an individual who has demonstrated excellence in their efforts to promote and facilitate global engagement and cooperation in the space sector.

The IAF Excellence in International Cooperation Award for 2024 is bestowed to:

#### Gabriella ARRIGO



Director, International Affairs Directorate, Italian Space Agency (ASI),

Gabriella Arrigo's career showcases her unwavering commitment to international space cooperation. She has been instrumental in shaping policies and fostering collaboration within ESA and ASI, contributing to key events. Through her work at UNCOPUOS, she has promoted cooperative frameworks to maintain peace in outer space. Her leadership has significantly impacted Italy's involvement in international space initiatives, including the ISS and the Artemis Accords. Additionally, her notable contributions to academia and transformative role in the IAF, advocacy for inclusivity, and efforts to engage new actors underscore her excellence in advancing international space cooperation.











Michael GOLD Chief Growth Officer,

Redwire,

United States



#### 4.3 IAF Excellence in "3G" Diversity Award

The IAF Excellence in "3G" Diversity Award is intended to recognize IAF member organizations (industry, government, academia) worldwide for outstanding contributions to the fostering of "3G" (Geography, Generation, Gender) Diversity within the space sector. The highest standards in "3G" Diversity can be achieved both by organizations and within teams' activities. To correctly represent this the IAF Honours and Awards Committee (HAC) decided to divide the IAF Excellence in "3G" Diversity Awards in two corresponding categories.

Michael Gold has dedicated his career to advancing international space cooperation, notably contributing to the implementation of alobal space projects. His transformative work in reforming U.S. export controls facilitated international collaboration in commercial space ventures, setting a precedent for legal reforms. At NASA, he led the development and implementation of the Artemis Accords, garnering support from 33 countries, including emerging space players. Mr. Gold's leadership also resulted in updates to planetary protection policies. His adept negotiation skills were instrumental in establishing the binding agreements for the Lunar Gateway,

REDWIRE

#### The IAF Excellence in "3G" Diversity Award for 2024 (Category A) is bestowed to:

showcasing his ability to navigate challenges and achieve consensus among international partners.

#### The Karman Project



KARMAN
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The Karman Project is a non-profit foundation championing international cooperation in space to promote peace and inspire action. Through its flagship Fellowship program and other activities, the foundation gathers public and private sector decision-makers to build trusted relationships, common understandings and impactful projects that serve sustainability, education, science, security and capacity building efforts. Since its establishment in 2019, The Karman Project's community of entrepreneurs, astronauts, space executives, researchers, and artists have initiated projects servicing the immediate needs of more than five million people worldwide.

The foundation's vision is to enable the most consequential projects and cooperative missions in space. A steadfast commitment to all pillars of diversity is central to this vision, understanding that the future success of the sector relies on inclusive participation, diverse representation and meaningful cooperation. The Karman Project is built on the belief that the relationships forged between global leaders now will shape key moments in the future, and it is proud to be an essential source of support to the space sector, its projects and its people.

The IAF Excellence in "3G" Diversity Award for 2024 (Category B) is bestowed to:

NASA Indigenous Community-Based Education (CBE) Program



NASA's Indigenous Community-Based Education is a consortium of partnerships between NASA and numerous, diverse Tribal Nations and Indigenous communities which co-create unique educational programs for the youth in each community. These programs bring Indigenous Knowledge and Western STEM together in a community-based way to support the development of learners' cultural and STEM identities. Collectively, we also build and nurture professional networks and communities of practice at the interface of Indigenous Knowledge and Western STEM, catalyze culture change and new policy within NASA toward more equitable and just practices in the process of science, and mentor the next generation of Indigenous scientists and leaders.

#### 4.4 IAF Excellence in Industry Award

The IAF Excellence in Industry Award is intended to distinguish commercial industry organizations, members or non-members of the IAF, worldwide for introducing innovative space technologiesto the global marketplace and are recognized throughoutspace industry for successfully executing landmark space missions.

The IAF Excellence in Industry Award for 2024 will be awarded to:

**United Launch Alliance** 



United Launch Alliance is a Limited Liability Corporation, incorporated in the US. ULA provides assured access to space and fuels local economies with their nationwide team of approximately 2,700 employees. Leveraging a legacy of 100 percent mission success launching more than 155 missions to explore, protect and enhance our world, ULA is the US's most experienced and reliable launch service provider with world-leading reliability, schedule confidence, and mission optimization.

On January 8, 2024, United Launch Alliance (ULA) marked the beginning of a new era of space capabilities with the successful inaugural launch of its Vulcan rocket.















Vulcan introduces new innovative capabilities to meet the changing landscape and requirement of space launch, while leveraging the best of more than 120 combined years of launch experience with Atlas and Delta. Vulcan provides the highest-value launch service with optimal performance to meet the full range of customer needs. Vulcan will leverage the world's highest-performing upper stage to deliver on ULA's industry-leading legacy of reliability and precision. Centaur V's matchless flexibility and extreme endurance enables the most complex orbital insertions within the most challenging and clandestine orbits.

Vulcan is uniquely designed to meet all the challenging requirements demanded by an expanding spectrum of missions for U.S. national security space launches. Moreover, the next-generation rocket will provide high performance and affordability while continuing to deliver superior reliability and orbital precision for all of ULA's customers across the national security, civil and commercial markets. The Vulcan manifest includes 70 missions comprised of a mix of government, national security and commercial missions. Vulcan takes advantage of innovative technologies and streamlined processes to bring new efficiencies, high-tempo operations, and unlimited possibilities to the new space economy.

The IAF Excellence in Industry Award – SMEs Category for 2024 will be awarded to:

#### ispace, inc.





īspace

ispace is a lunar exploration company with a vision to extend human presence into outer space. The ispace Mission 1 (M1) team stands as a pioneer in space exploration with the successful launch and voyage of the first commercial mission to the Moon.

In December 2022 ispace launched HAKUTO-R Mission 1, which embarked on its journey with aspirations of a Moon landing in April 2023. Despite a hard landing, the spacecraft operated nominally for 135 days in space, achieving 8 out of its 10 mission milestones. This feat was the first contribution to a global effort towards the commercialization of space exploration. Furthermore, Mission 1 facilitated access to lunar exploration for a diverse array of entities, thereby democratizing space access for both established and emerging spacefaring nations.

ispace, a young and global enterprise, exemplified international collaboration spanning three continents. The mission was powered by a diverse group of people, showcasing the synergy that arises from blending the perspectives and capabilities of over 30 nationalities. The M1 team collaborated around the clock, from Tokyo, Luxembourg and Denver. In preparation for a launch in 2022, they worked on critical project phases amidst the challenges posed by a global pandemic. Their unwavering commitment to the motto "Never quit the lunar quest" reflected their resilience and their determination.

#### 4.5 IAF Hall of Fame

The IAF Hall of Fame is intended to create a standing forum of personalities that have contributed substantially to the progress of space science, technology, and space benefits to mankind. It will consist of a permanent gallery of these personalities, including a citation, biographical information, and a picture, in a special part of the IAF web presence.

The IAF Hall of Fame for 2024 will be awarded to:



Former President. Hungarian Astronautical Society (MANT), Incubation Center (HASTIC),



"Recognition of his lifelong contribution to the development of the Hungarian and international space sector; his activities in development of multi-language space terminology dictionary; the creation of the San Marino scale."

#### Edward LU LeoLabs, United States

Co-Founder and Chief Technology Officer, Co-Founder and Executive Director, B612 Foundation.

"Dr. Edward Lu, a form er astronaut and serial co-founder, has dedicated his career to mapping and tracking the unknown and the unseen; preventing disasters both in space and on Earth."



Maria Antonietta PERINO Director for Space Economy Exploration and International Network. Thales Alenia Space Italia,



"A tireless pioneer of space exploration, workforce development and international teamwork."



Giorgio SACCOCCIA Senior Advisor to Director General, European Space Agency (ESA),



"Giorgio Saccoccia has shown extensive and recognised dedication to the advancement of the Space sector, carried out internationally through a unique combination of institutional, technical, industrial and academic exposure, with a special attention always given to the mentoring of future generations of space professionals."

















S. SOMANATH Chairman

India

Indian Space Research Organisation (ISRO),

South Pole of moon, Aditya L1 solar mission and Gaganyaan qualification missions."

The Frank J. Malina Astronautics Medal is presented annually to an educator who has

demonstrated excellence in using his/her available resources to promote the study of

Frank J. Malina Astronautics Medal



4.6

#### Robert TWIGGS Emeritus Professor, Astronautics, Morehead State University.

The Frank J. Malina Astronautical Medal for 2024 is bestowed to:

astronautics and related space sciences.

"As someone who has continually worked on academic small satellites since 1982, Prof. Twiggs has been known as the "Father of the CubeSat" as the co-developer, alongside Prof. Jordi Puig-Suari, of the CubeSat reference design and P-Pod Deployer for miniaturized satellites which has become the de-facto Industry Standard for smallsats with over 2,200 launched since 1998. Alongside the CubeSat, he was responsible for co-developing and promoting other original concepts such as the CricketSat, CanSat, ThinSat and the PocketQub for educational applications in space. Prof. Twiggs will provide a historical perspective of the development of the CubeSat concept and how it has found its place in the satellite community."

"Mr. S. Somanath has made remarkable contributions to India's space program with his expertise in launch vehicle technologies and

system engineering for the development of PSLV, LVM3, SSLV and also as the lead of ISRO team for Chandrayaan-3 mission to land near

#### 4.7 IAF Interactive Presentations Competition Award

To be announced on Thursday 17 October during the IP Award Ceremony at 13:00 in the Silver Hall. This event will kick-off the fourth IP Session of the week and the IP cocktail reception, so do not miss your chance to mingle with the presenters and make sure to join us in the IP Hall!

- A. Science and Exploration
- B. Explorations and Operations
- C. Technology
- D. Infrastructure
- E. Space and Society

This event will kick-off the IP Session and the IP cocktail reception, so do not miss your chance to mingle with the presenters and make sure to join us in the IP Hall!

This year, a record number of 2300 Interactive Presentations are in competition for the IP Awards.



Frank J. Malina

(1912 - 1981)

#### **International Astronauts Chapter** 5

The 75th International Astronautical Congress (IAC) 2024 in Milan, Italy, will feature a special International Astronauts Chapter, organized jointly by the International Astronautical Federation (IAF), the Association of Space Explorers (ASE), and the Italian Space Agency (ASI).

Focusing on the theme "Responsible Space for Sustainability", the International Astronauts Chapter will explore the crucial and proactive leadership role of astronauts in advocating for responsible space practices to ensure the sustainability of space activities. The Chapter will include various panels and discussions and intensive outreach programme.

As part of the IAF Global Networking Forum (IAF GNF), do not miss the IAF – ASE Astronaut Panel titled #norisknofun – KEEPING HUMAN SPACEFLIGHT SAFE on 18 October, from 14:30 to 15:3. During this session, an international panel of astronauts and cosmonauts will share insights and sustainable practices to safeguard space for future generations.

Additionally, there will be an autograph session with astronauts from 12:15 to 14:00 in the Auditorium. They will share their experiences and findings with the General Public and will foster their enthusiasm for space exploration.

Enjoy a rare and thrilling opportunity for attendees to meet their space heroes up close.



Hazzaa ALMANSOORI Astronauts Office Manager, Mohammed Bin Rashid Space Centre (MBRSC) United Arab Emirates



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Pedro DUQUE

Government of Spain,

Astronaut,



Maurizio CHELI Astronaut, Air Force Officer, European Space Agency (ESA),



Space Administration (NASA),

Türkiye



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Alvin DREW Astronaut,



President, Hispasat Spain

Lead for NASA Space Director of the Cross-Integration Office,

Directorate Technical National Aeronautics and Director,

Space Sustainability, United States







#### Tony ANTONELLI

Astronaut, Acting Director, Advanced Programs Civil

Lockheed Martin Corporation

#### Anthea COMELLINI

Astronaut Reserve, European Space Agency (ESA) GNC engineer, Thales Alenia Space,



#### Tuva Cihangir ATASEVER

Astronaut, Turkish Space Agency (TUA), Türkiye

#### Samantha CRISTOFORETTI

LEO Cargo Return Service Team Lead, Astronaut,, European Space Agency (ESA), Italv

#### **Reinhold EWALD**

European Astronaut and Professor of Astronautics, President. Association of Space Explorers (ASE) (2021-2024), Chair. IAF Astronauts Administrative Committee (AAC) Germany

Minister for Science. Innovation and Universities (2018-2021),

Japan Aerospace Exploratio



#### Sergey KRIKALEV

Mechanical Engineer, Cosmonaut. Executive Director for Human Space Programs, ROSCOSMOS, **Russian Federation** 

STRONAUTS CHAPTER

André KUIPERS

The Netherlands

Andrea PATASSA

Franz VIEHBÖCK

Astronaut and CEO,

Berndorf AG,

Austria

Italv

Captain, Astronaut Reserve,

European Space Agency (ESA),

European Space Agency (ESA)

Astronaut,













Michael López-Alegría



**Carmen POSSNIG** 

Astronaut Reserve, European Space Agency (ESA), Austria

**Eytan STIBBE** AX-1 Astronaut, Rakia Mission Israel

Franco MALERBA

Luca PARMITANO

Liaison Officer,

Lead Astronaut, EAC/JSC

European Space Agency (ESA),

Founder,

Italy

Italy

Italy

Space V s.r.l.,

The first Italian Astronaut,

**Roberto VITTORI** Astronaut and Space Attaché,

European Space Agency (ESA),

#### 6

#### **Public Day**

#### **PUBLIC DAY AGENDA** October 18<sup>th</sup> 2024

During the entire IAC General Public Day the attendees will have the possibility to visit the "Exhibition hall".

	MORNING: A	udito
10:30 -10:40	WELCOME	
10:40 - 11:45	NEW SPACE ECONOMY AND SUSTAINABILITY	SPE/
	Round table, Q&A (held in Italian)	Simo Tech
	Participants will have the chance to hear the words of experts in both academic	Cam
	and industrial fields regarding space sustainability. Discussions will focus on space technology, economy and exploration	abili Prof
	with their challenges and possibilities. To conclude this moment, there will be a section dedicated to collecting and	Mar Inno
	answering questions and curiosities from the audience.	Bene Co-fe
11:45 - 12:15	AWARD CEREMONY (held in Italian)	SPE/
	ASI, in collaboration with AIDAA and Leonardo, proposed to secondary schools in Italy and abroad to discuss the theme	<b>Ama</b> prof
	of sustainability and to deepen their understanding of its contents by drawing up a project proposal. The best projects of	<b>Anth</b> Astro Thal
	the call for ideas "A responsible space for	Gerr
	sustainability" will be awarded during this ceremony.	Com
		Rela
		Mar and
12:15 - 14:00	MEET THE ASTRONAUTS	
	Participants will have the opportunity to meet pictures and ask for autographs to recall the e	
14:00 - 14:30	MUSICAL MOMENT	
	Participants can enjoy the joint performance o d'Oro, from Pesaro.	of the





Koichi WAKATA Astronaut and Chief Technology Officer, Asia-Pacific, Axiom Space, LLC, Japan

Italy











#### orium MICO

#### AKERS

MODERATOR

Marta Meli, SkyTG24

ona Zoffoli, Engineering and hnology Directorate ASI

nilla Colombo, AIDAA Sustainlity Working Group and Associate fessor at Politecnico di Milano

rco Brancati, Research, Digital & ovation, Telespazio

edetta Cattani, CEO and founder of Ecosmic

#### AKERS

alia Ercoli Finzi, Honorary fessor at Politecnico di Milano

hea Evelina Comellini, ESA ronaut reserve and engineer at les Alenia Space

mana Galoforo, Institutional nmunication and External tions Directorate ASI

rco Di Clemente, Engineering Technology Directorate ASI

astronauts, have some insights on their experience, take ence.

choirs Little Astronauts Troup, from China, and the Grillo

PUBLIC DAY

MODERATOR

Marta Meli, SkyTG24





#### AFTERNOON 14:30 - 16:30 HANDS ON EXPERIENCES (Silver Hall) Participants will be able to explore the interactive area, with a variety of different space-related activities including art exhibitions, associations' stands and hands on activities.

#### GLOBAL NETWORKING FORUM WITH ASTRONAUTS (Auditorium) (held in English)

Participants will have the chance to join astronauts at the Global Networking Forum for an exceptional exchange of ideas. Explore the future of space and technology, and network with those who have ventured beyond our planet.

#### Notes








#### Join the IAF, the world's leading space advocacy body!





#### **Become an IAF Member**

- ✓ Download the Application Form on www.iafastro.org
- Participate in the IAF Committees in charge of defining the Technical Programme
- ✓ Propose to host a Plenary Event during the IAC
- Propose a Global Networking Forum (GNF) Event to showcase your organization's latest achievements or to discuss the most interesting topics about Space
- Participate and vote in the General Assembly and nominate IAF Officers
- Host one of our events!

#### **JOIN US**



Download the Application Form on our website (www.iafastro.org) or request it to the Secretariat.



We will review your application and ask in case of missing information.



Complete the Application Form and attach the requested documents.



Once reviewed, your application will be recommended by the **IAF General Counsel** 



Send everything to our Secretariat. (info@iafastro.org)



Final approval by the General Assembly during the IAC.

#### Connecting *@ll* Space People

#### **Sponsors and Media Partners**





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#### Connecting @ll Space People



HOST:



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Be part of the conversation @iafastro and #IAC2024

