



**IAC
2023
BAKU**

74th INTERNATIONAL ASTRONAUTICAL CONGRESS



**2-6 OCTOBER 2023
BAKU, AZERBAIJAN**

Global Challenges and Opportunities:
Give Space a Chance

**OTHER
EVENTS**

FINAL PROGRAMME

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WEDNESDAY, 25TH OCTOBER, 2023

10:00 AM-6:00 PM (TOKYO TIME) TENTATIVE

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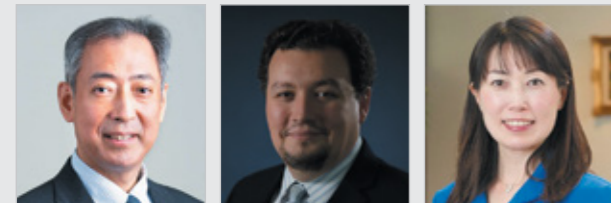


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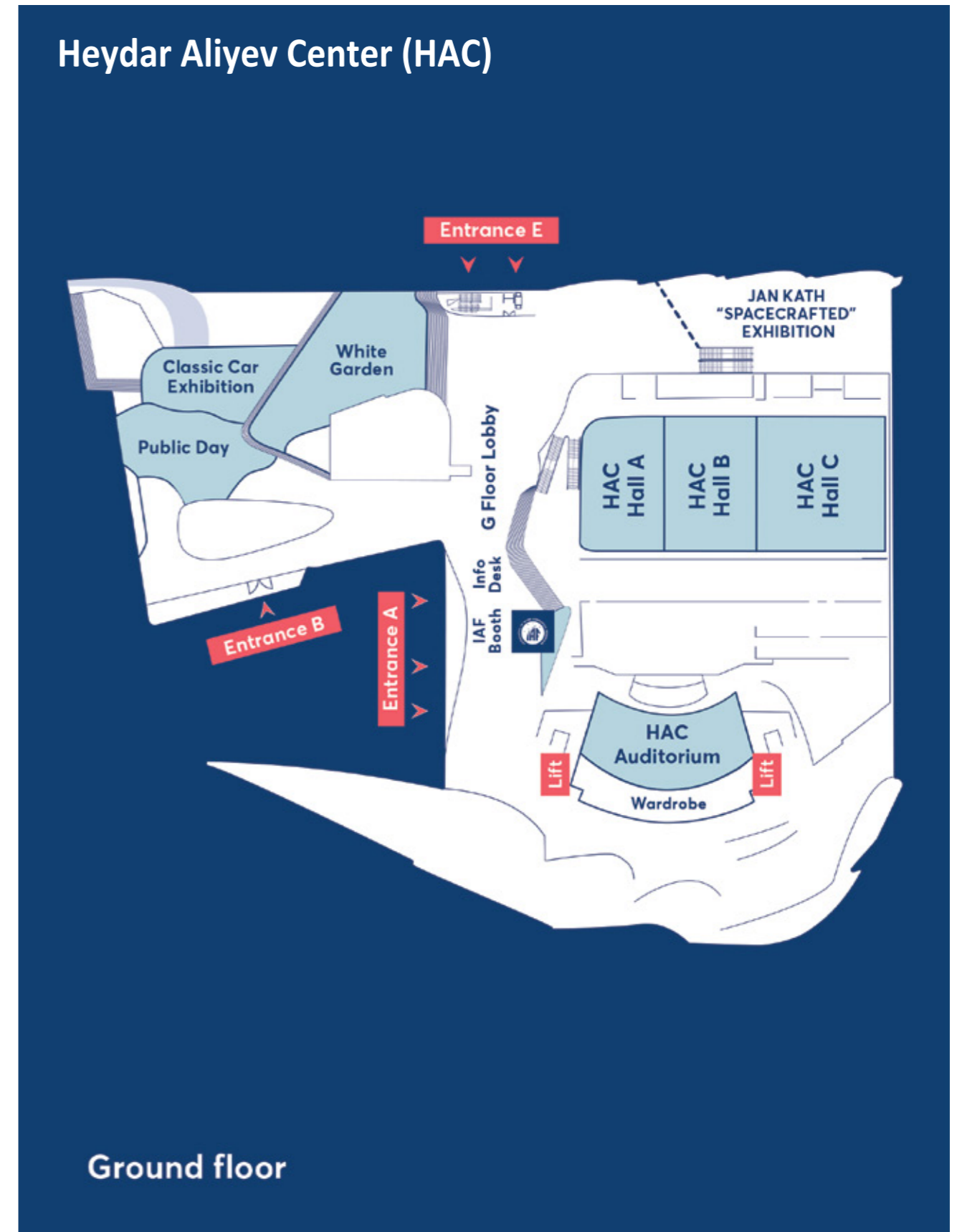
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Floor plans

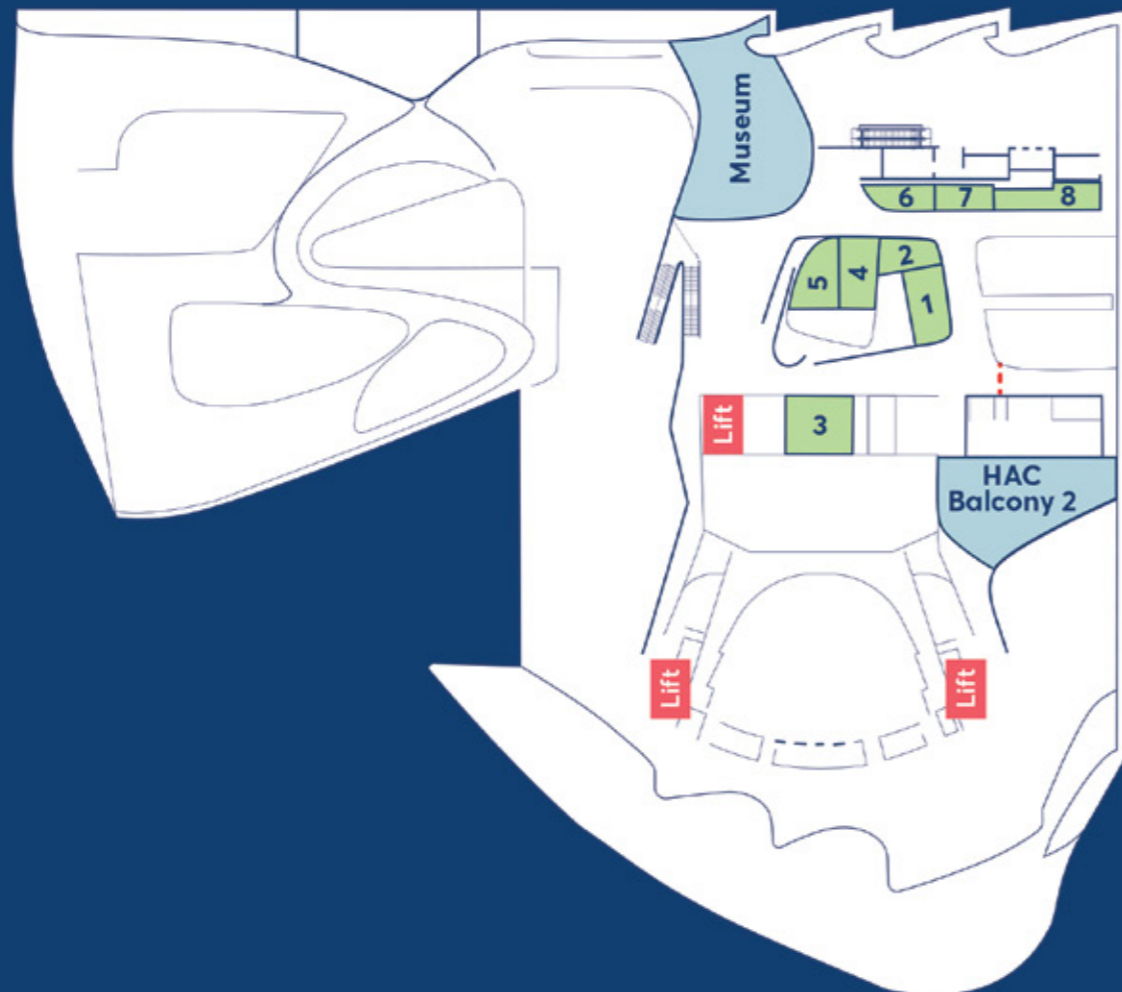


Heydar Aliyev Center (HAC)



Ground floor

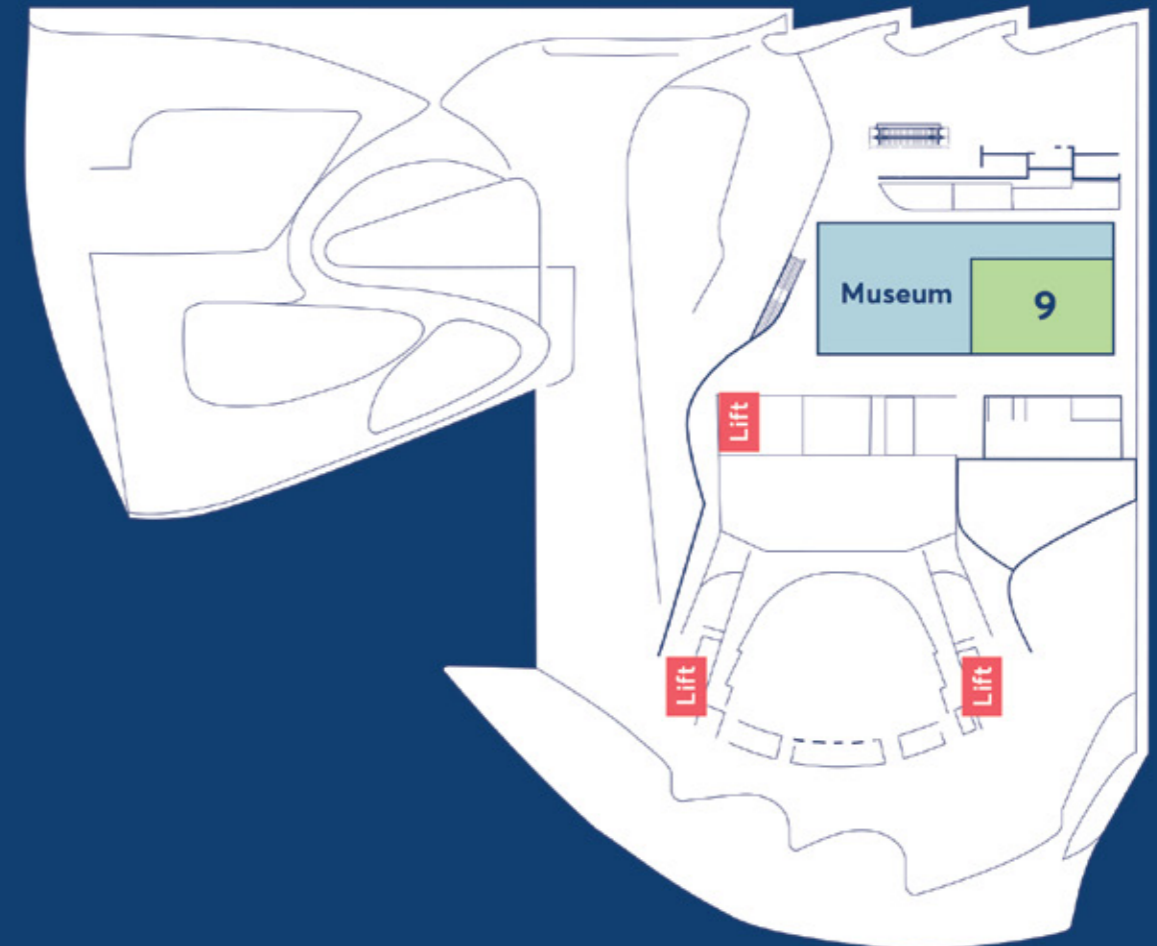
Heydar Aliyev Center (HAC)



2nd floor

■ Room numbers

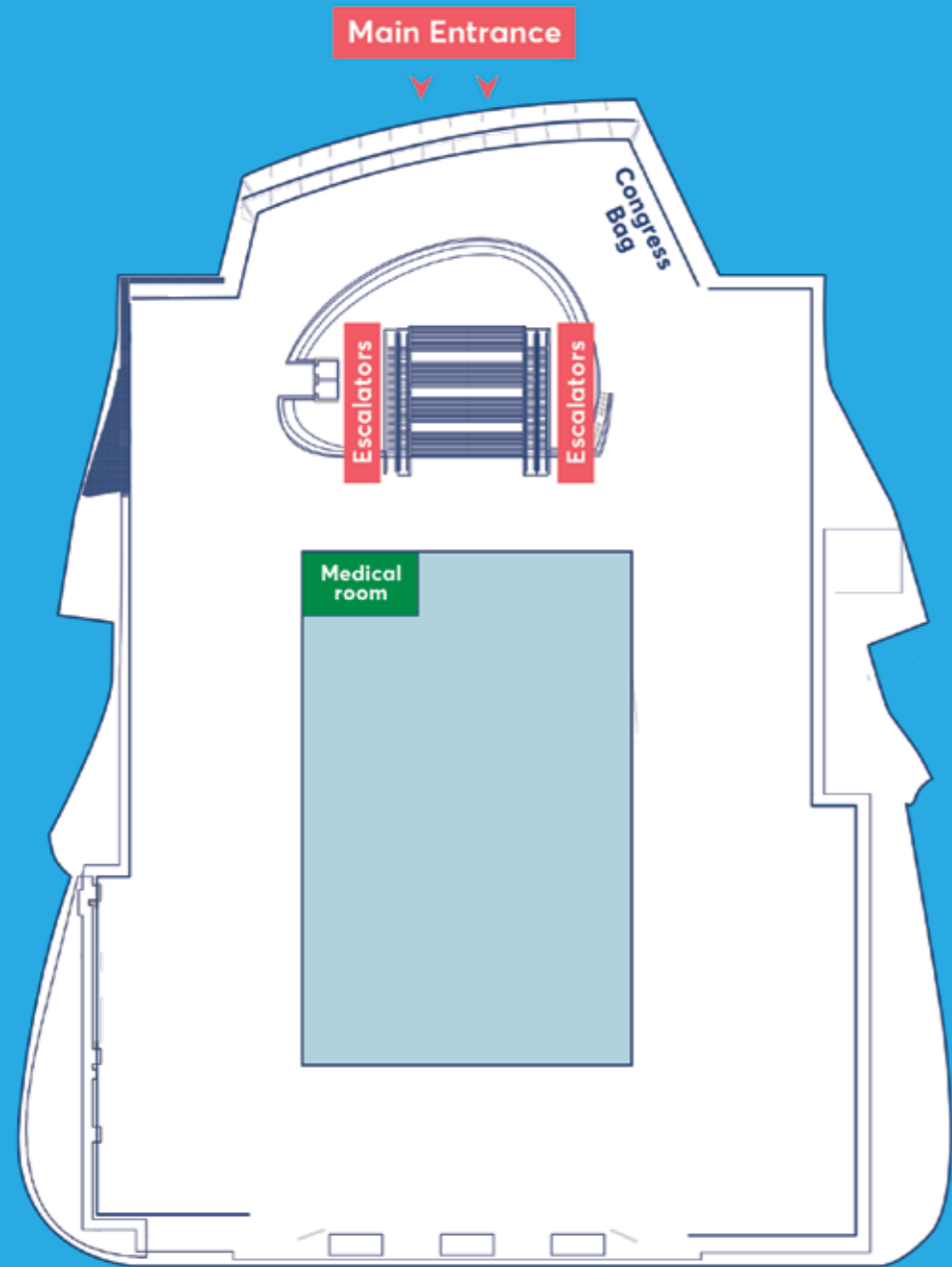
Heydar Aliyev Center (HAC)



3rd floor

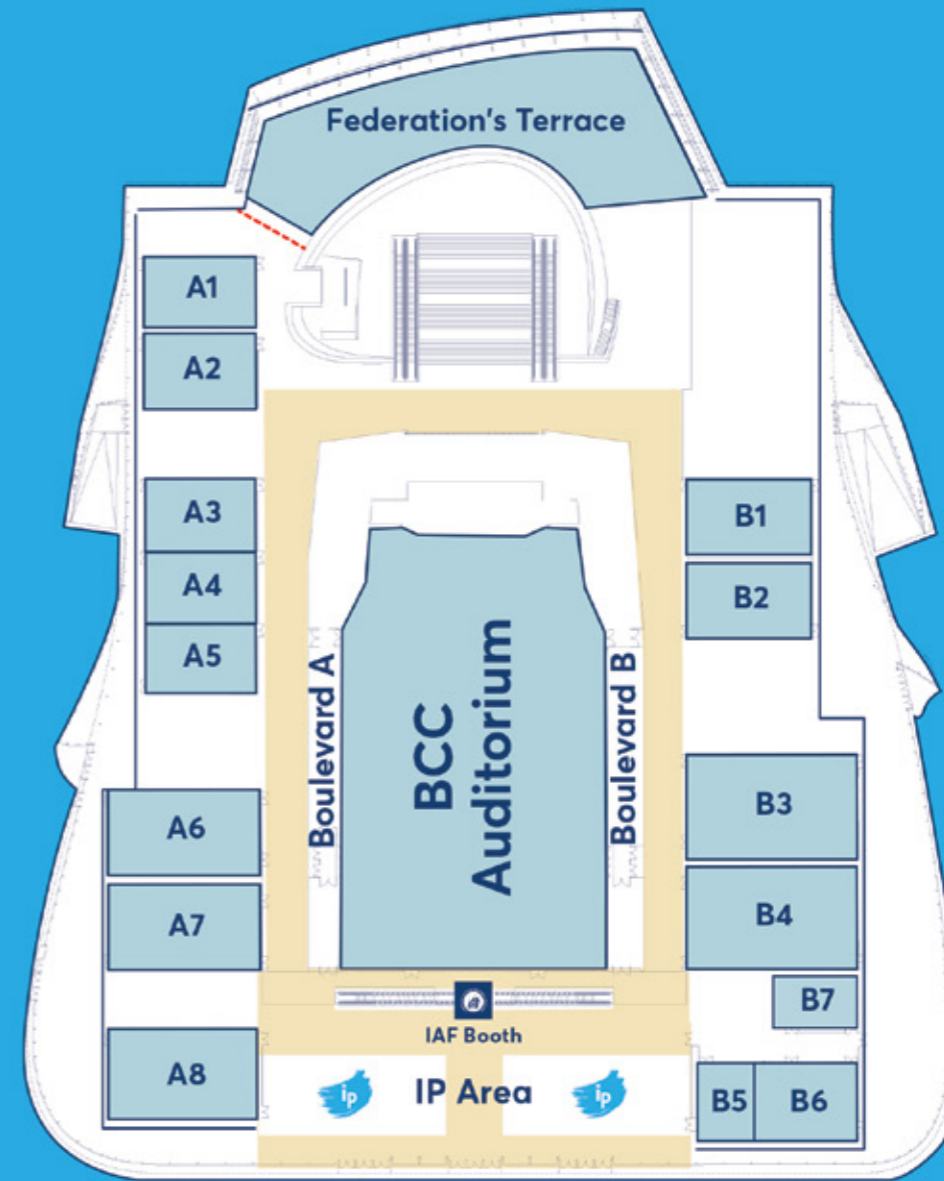
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Baku Convention Center (BCC)



Ground floor

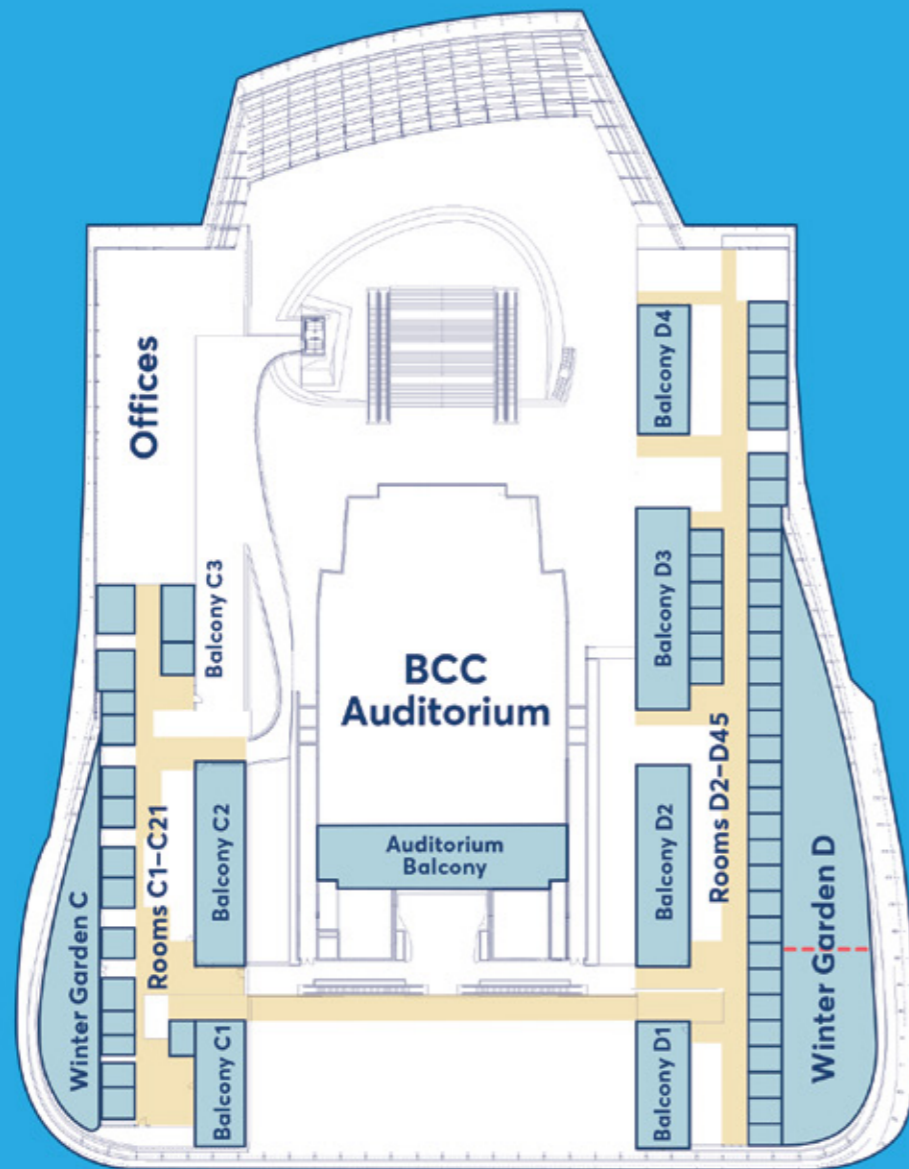
Baku Convention Center (BCC)



2nd floor

Room numbers

Baku Convention Center (BCC)



3rd floor

■ Room numbers

1 Students and Young Professionals Events

1.1 2023 IPMC Young Professional Workshop

Date: Sunday 1 October 2023
Time: 09:00 - 16:45
Venue: Room BCC B6, Baku Convention Center



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. Based on their first-hand experience, Young Professionals will be asked to explore topics related to key Project Management competencies: Stakeholders Management, Risks Management, Data Management, Human Capital Management, Knowledge Management. Young Professionals will have the opportunity to discuss their findings with Experts from the IAF Community, and engage in Q&A with them.

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 |
| 16:30 - 16:45 | Wrap-up |

1.2 IAF Young Professionals Events

Sunday 1 October 2023

- 08:30 – 13:30 **Cross Cultural Communications and Presentation Workshop** – Room BCC A5
- 09:00 – 18:00 **IPMC Young Professional Workshop** –
- 19:00 – 21:00 **YPP opening reception** – Room HAC Hall (For Young Professionals Only)
Come mix and mingle with fellow YPs as the IAF's Young Professionals Programme welcomes you to IAC 2023.

Tuesday 3 October 2023

- 19:00 – 21:00 **Reception for Launchpad Mentorship Programme** – Room BCC Auditorium (For Young Professionals Only)

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Wednesday 4 October 2023

- 19:00 – 21:00 **YPP/ISU/SGAC presents NGP Moonshot Panel** – Room BCC Auditorium (For Young Professionals Only)

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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 2023 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 74th International Astronautical Congress (IAC) - IAC 2023, in Baku, Azerbaijan which will take place from 2-6 October 2023. Awardees also attend the IAC Gala Dinner as guests of the IAF President and enjoy a free IAC registration.



Tensae Alemayehu ALI

Regional Coordinator - Africa, Space Generation Advisory Council - SGAC

Tensae Alemayehu Ali is a pioneering figure in African Space Science and Engineering, driven by a lifelong passion for exploration and a commitment to making a lasting impact. As a Mechanical Engineering graduate from Mekelle University, Tensae's visionary leadership and outstanding achievements have set him apart.

Currently the Regional Coordinator for Africa at the Space Generation Advisory Council (SGAC), Tensae plays a crucial role in nurturing the next generation of space professionals. Alongside his role at SGAC, he recently joined CubeSpace ADCS as a Sales Engineer, a world-leading Satellite ADCS manufacturing company, where he contributes his technical expertise and exceptional communication skills to drive business growth.

Tensae's involvement expands beyond his positions at SGAC and CubeSpace. He has held key roles within SGAC, including the Regional and Local Events Coordination Team and the National point of contact for Ethiopia. His leadership skills were recognized by the International Astronautical Federation (IAF), electing him to co-chair Africa Subcommittee of the IAF Administrative Committee on Connecting Emerging Space ecoSystems (IAF-ACCESS).

Passionate about raising awareness for the space sector, Tensae has organized impactful outreach activities in Addis Ababa and Mekelle. As part of the Executive Mekelle Branch office at the Ethiopian Space Science Society (ESSS), he inspires and engages young minds.

Tensae's exceptional contributions have earned him prestigious awards, including the Emerging Space Leaders award from the International Astronautical Federation (IAF) in 2022, the Top 10 Under 30 African Space Industry Award - Class of 2021 by Space In Africa, and the Global Grants Programme award by SGAC. His outstanding achievements and dedication continue to drive advancements in space science and engineering.

Driven by a boundless passion for exploration, innovation, and leaving a lasting legacy, Tensae Alemayehu Ali stands as a true trailblazer and a beacon of inspiration for aspiring space professionals worldwide. His technical expertise, exceptional leadership, and unwavering commitment continue to reshape the landscape of the space industry.



Harriet BRETTL

Head of Market Analysis and Business Intelligence, European Space Agency

Harriet Brettle is the Head of Market Analysis and Business Intelligence at the European Space Agency in the Telecoms & Integrated Applications (TIA) directorate. In this role, Harriet is responsible for the analysis of markets relevant to satellite communications and space solutions. Prior to joining ESA, Harriet was Head of Business Analysis at Astroscale and was Chair of the Space Generation Advisory Council. With a background in finance as well as degrees in planetary science and mathematics, Harriet is passionate about commercial sustainability and emerging market opportunities within the space ecosystem.



Matías F. CAMPOS ABAD

CEO & Founder, Astralintu Space Technologies

Matías is an Ecuadorian Aerospace Engineer and Educator who returned home to Ecuador after earning his Bachelor's and Master's degrees in the United States and beginning his career in the European industry. Under his leadership as Founder & CEO, he established his country's first space startup. Astralintu Space Technologies is growing rapidly and catalyzing the emergence of a dynamic space ecosystem not only in Ecuador but also in Latin America. Astralintu provides space services that make space more accessible to emerging countries worldwide. Its innovative business model has been recognized as a first-place winner in multiple international pitch competitions. Astralintu looks to connect the Global South to the benefits of space by deploying its signature project, the Equatorial Ground Station Network (EGSN) with its first ground station AST-GS1 "Initiative" already operating and tracking satellite constellations from Latitude 0°.

Matías' life mission, Emerging Together Connected Through Space, has led him to actively participate in advocacy organizations. He serves as Vice-Chair of the International Astronautical Federation Administrative Committee for Connecting Emerging Space ecoSystems (IAF ACCESS) and Chair of the Latin American and the Caribbean Subcommittee (IAF LAC-SC). After successfully hosting the IAF's Global Conference on Space for Emerging Countries (GLEC 2022) in Quito, Ecuador, Matías focused on building a long-lasting legacy for space in emerging countries. He spearheaded the rebranding efforts of IAF ACCESS and the creation/reactivation of its five regional subcommittees, which are already promoting growth, collaboration, and exposure to bring the benefits of space to communities worldwide.

Space education and communication are crucial aspects of Matías' life, as he aims to unite students and young professionals in introducing New Space to countries where Traditional Space was previously unattainable. Matías volunteers as the STEM Program Director for the Sideralis Foundation, where he promotes space awareness and conducts educational and capacity-building activities for children and students of all ages. Additionally, his peers at the Space Generation Advisory Council (SGAC) have entrusted him to serve as the Regional Coordinator for South America, connecting the region's space generation with global opportunities.

Absolutely honored to be recognized by the IAF as a Young Space Leader, Matías acknowledges the responsibility and the challenge of continuing to collaborate with fellow like-minded space leaders from all corners of the world. Together aiming to break the barriers of gender, geography, and generation in connecting a truthful Space for All.



Bethany DOWNER

Chief Science Communications Officer for the Hubble and James Webb Space Telescopes European Space Agency

Bethany Downer, of Newfoundland and Labrador, Canada, specializes in science and technology communication for the space industry. She is the Chief Science Communications Officer for the Hubble and James Webb Space Telescopes for the European Space Agency, and she is the Director of Communications for STAR HARBOR - the world's first publicly accessible spaceflight training facility and R&D campus for space. Bethany is a member of the IAF Space Education and Outreach Committee (SEOC) and the Workforce Development-Young Professionals Programme Committee (WD-YPP). She has also conducted space science outreach to over 10,000 Canadian students and is actively supporting students and young professionals in Atlantic Canada who want to pursue careers in the space domain. Bethany has twice been named one of Canada's Top 30 under 30, and is a recipient of the Canadian Sovereign's Medal from the country's Governor General.



Manny SHAR

Managing Director for UK & Europe, Orbit Fab

Manny Shar is the Managing Director for UK & Europe at Orbit Fab, supporting the development of an in-space propellant and materials supply chain. Manny is focused on technology development, commercialisation, and international growth for this leading space start-up. Manny previously helped develop BryceTech's international consulting presence into a revenue generating and profitable business, managed the analysis of a multi-billion-dollar portfolio of assets at Inmarsat, and executed on cross-functional initiatives at top-tier investment banks. Manny sits on multiple advisory boards and committees, including the UK's Space Technology Advisory Committee, Spaceflight Safety and Regulatory Council, and the International Astronautical Federation's Industry Relations Committee. He is a recipient of the 2019 and 2020 SSPI 20 under 35, SGAC's Space Generation Leadership award, and the William S. Ball Award for Entrepreneurship.

He holds a master's degree in space studies from the International Space University and a bachelor's in computer science from the University of Kent.

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 Baku, Azerbaijan in September 2023 to participate in the 74th International Astronautical Congress and have the opportunity to extend their network, gain knowledge and meet space experts!



Adewale ADELANWA

Adewale is a Senior Analyst and consultant at Space in Africa, specialising in research and market intelligence within the African space industry. With a strong focus on data-driven analysis and industry landscapes, he develops comprehensive reports that uncover new opportunities for private and public space organisations. Adewale's expertise extends to consulting services for satellite development programs, where he advises on cutting-edge technology, launch opportunities, and satellite commercialisation.

Recognising the importance of international cooperation in space, Adewale sees it as a powerful force that unites nations towards a common goal. Drawing inspiration from the successful International Space Station program, he recognises the transformative potential of collaborative efforts across borders. He emphasises the opportunities that offer non-spacefaring nations, such as developing African countries. Through diverse initiatives, Adewale has witnessed firsthand how these collaborations empower governments to kickstart their space journey.

Adewale's dedication to advancing the African space industry and belief in the power of international cooperation have shaped his career as a respected analyst and consultant. His contributions have opened doors for clients, enabled space infrastructure development, and unlocked access to vital space resources. Through his work, Adewale continues to drive progress and opportunities in space applications and technology.



Yaqoob ALQASSAB

Yaqoob Alqassab is a senior engineer at the NSSA, with a master's degree in mechanical engineering with Space System Technology from Khalifa University and a bachelor's degree in mechanical engineering from the University of Bahrain. Developed the first Bahraini software in space which was related to the Attitude Determination and Control Subsystem (ADCS). Specialized in satellite development engineering, ADCS programming, structural analysis, system analysis, mission analysis and thermal analysis. Worked on many satellites, namely Light -1: a 3U CubeSat to detect Terrestrial Gamma-ray Flashes, DhabiSat: a 2U CubeSat to test novel ADCS algorithms and AIMunther: a 3U CubeSat to take medium resolution images of Bahrain and to test Bahraini innovations in space related to Artificial Intelligence (AI) and cyber security. Published 15 research papers in the field of space system technology. Won the first round of the Payload Hosting Initiative (PHI) organized by the United Nations Office of Outer Space Affairs (UNOOSA) and the Mohammed Bin Rashid Space Center (MBRSC). International collaborations in the space field hold immense importance for the advancement of human knowledge and exploration. By working together, nations can pool their resources, expertise, and technological capabilities, leading to more efficient and cost-effective missions. Collaboration allows for the sharing of scientific data, research findings, and technological innovations, enabling a deeper understanding of space and the universe. Additionally, international partnerships in space foster diplomatic relations, promote peaceful cooperation, and build trust among nations.



Julia ALVAREZ VALLERO

My name is Julia Alvarez Vallero and I have always worked towards my desire to become a part of the aerospace sector. In order to achieve this goal, I have published articles and attended to conferences since I was a degree student, because my objective was to, eventually, get a job in the industry. I can also add that it is not a mere desire or wishful thinking. I work hard every day to achieve the objectives that are demanded of me on time and with the highest quality. Moreover, I am always learning from those who are more experienced, because I look forward to work with them in the near future. My professional and academic background connects perfectly with the organization's goals. I am an electronic engineer, with two years of experience in the aerospace field as a power design engineer, developing tasks as a subsystem engineer. As part of my daily activities, I have to solve problems in coordination with other subsystems, trying to arrive to the best possible approach dialoguing with my superior and the rest of my team. To enhance the knowledge I could bring to the sector, I decided to take a Master's degree in Renewable Energies, Climate Change and Sustainability I have been awarded a scholarship from Xunta de Galicia to do it. My idea is that the aerospace sector will play an important role in the pursuit of a clean environment in order to guarantee good Earth conditions for future generations. Currently, together with my work on the company, I keep making efforts to increase my knowledge and skills to make my contribution to the sector.



Raihana SHAMS ISLAM ANTARA

Raihana Shams Islam Antara is on a mission to achieve self-reliance in space technology for her country, Bangladesh, and promote STEAM. She is one of the Engineers of Bangladesh's first satellite, BRAC Onnesha. She completed her M.Sc in Applied Science for Integrated Systems Engineering from Kyushu Institute of Technology, Japan. She graduated as a Space Systems Engineer and has a background in Antenna Technology, Communications, Embedded Systems, and Robotics. She has experience in small satellite AIT activities. She is an engineer of the Joint Global Multi-Nation Birds satellite project acronym "Birds Project", the AIRBUS GEDC Diversity Award 2017 champion. She received ACI Limited Bangladesh's 2018 Science and Technology youth excellence award for her work on BRAC Onnesha. She is a Cansat Leaders Training program graduate and the first female participant from Bangladesh. Currently, she is working as a Lecturer in the Department of Electrical and Electronic Engineering at Brac University. She is the co-founder of the Laboratory of Space Systems Engineering & Technology (LASSET) at the School of Engineering at BRAC University. Raihana is a U.S. State Dept. alumna of the International Visitors Leadership Program (IVLP) in "Advancing Women in STEAM," the U.S. Department of State's premier professional exchange program. She is the point of contact (POC) for UNISEC Bangladesh, the local chapter of UNISEC-Global, an international nonprofit body to promote practical space development activities, mainly at the university level. She is the advisor of the IEEE Communication Society(ComSoc) Brac University Student Branch Chapter.



Suraj ARANHA

Suraj Aranha is currently a PhD candidate from RMIT University, Melbourne, Australia. Has 5 years of technical Engineering work experience.

Suraj Graduated in 2014 with a Bachelor of Engineering (Mechanical) from Mangalore, India before joining a ship building company as a Design Engineer. There he was part of the design team that built two Geo Technical Research Vessels (GTRV) capable of drilling and seabed sampling in depths of up to 3000m, a Multipurpose offshore vessel (MPSV) and several smaller vessels for the Indian Navy and Coast guard. After working for 3 years designing ships, Suraj joined the small but highly skilled team of Indo-Danish artist-duo "Pors and Rao" at their studio in Bangalore. Here Suraj was involved in building Hi-tech artworks that was designed to move and react in life like ways which involved complex mechatronic systems. To develop his interests in the state-of-the art modern intelligent engineering applications, Suraj completed his Masters in Robotics and Mechatronics from RMIT in 2021. Working on the Intermediate axis theorem as his master's research project, Suraj developed interest in Space technologies and explorations which led him to continuing his research as a PhD candidate. As an engineer who loves to find creative solutions, space offers opportunities to solve some of the most complex, massive problems with a lot of unknowns. If all the countries have common goals and unite to develop technologies, we could accelerate space exploration at a rapid pace and dedicate the best human achievements to the global peace and global prosperity.



Valeria DITTEL TORTOS

Valeria is an Electromechanical Engineer, co-founder and Chief Product Officer at Orbital Space Technologies, a space startup that seeks to provide end to end mission services for experimentation in microgravity for Latin America and the world. The first project of Orbital Space Technologies is under development, a mission that studies the fungus that causes Panama Disease, a disease that threatens banana plantations around the world, in a microgravity environment to develop an effective treatment or a possible cure. The first stage of this project, under Valeria's administration, was successfully launched in November 2022, from Esrange, Sweden. This is the second ever Costa Rican space mission and the first one developed by a company.

She is passionate about making space more accessible and works around that goal by creating and promoting opportunities in developing countries to make the space sector grow in diversity. Valeria has been involved in space promoting organizations since 2018, where she joined and became part of the directive board of TECSpace, the largest aerospace student group, which provides hands-on experience in a country where there is no aerospace engineering as a career. She has also a commitment to encourage women in STEM. She has worked in projects such as the Gender Equality Commission of TECSpace, promoting anti-harassment policies and co-founded the Costa Rican chapter of the global network of Women in Aerospace Costa Rica, visioning more involvement, visibility, and leadership of women in the aerospace sector.



Imane EL KHANTOUTI

Imane El Khantouti is a Space project manager at working on space application for sustainable development in Toulouse, France. She holds an Aerospace engineering degree from the International University of Rabat, Morocco. She is also one of the core members of the Moroccan Initiative for the Space Industry (MISI) aiming to promote and sustain the space industry in the kingdom of Morocco.

Imane served as the National Point of Contact for Morocco for Space Generation Advisory Council since 2018 and as Commercial Space Project Group Co-lead since late 2021 until february 2023. She has played an organizing role for the Global Conference on Space for Emerging Countries on the Space Generation Advisory Council – International Astronautical Federation (SGAC-IAF) youth workshop. Imane is one of the 10 under 30 best Africans in the Space industry in 2020 and 6 most young innovative Arabs in 2021. Her aim is to find solutions for the African socio-economic issues through space applications, entrepreneurship and make the African market space faring.



Sahba EL-SHAWA

Sahba El-Shawa is a Jordanian-Canadian interdisciplinary researcher and social entrepreneur originally from Palestine. She is the Founder of the Jordan Space Research Initiative (JSRI), which aims to bridge sustainable development with space exploration and establish an analog research facility in Jordan. Sahba holds several roles in the Space Generation Advisory Council, including National Point of Contact for Jordan, as well as Co-Lead of the Ethics & Human Rights project group and the Space for Climate Action policy division. She is also a National Coordinator in the Moon Village Association and its Participation of Emerging Space Countries program, as well as the Implementation Support Officer for its Global Expert Group on Sustainable Lunar Activities (GEGSLA). Sahba has won numerous awards, including the Space Generation Leadership Award and the Women in Aerospace Europe Young Professional Award.

Sahba holds a BAsC in Mechanical Engineering, an MSc in Space Studies, and is currently pursuing her PhD in Sustainable Development and Climate Change. Her PhD research centers around the neuropsychological basis of the Overview Effect, and how making it more accessible using Virtual Reality can help drive sustainability on Earth. During her studies, she collaborated with the German Aerospace Centre (DLR) on robotics research and completed an internship at the European Space Agency's Clean Space initiative focusing on the environmental impacts of space activities. Sahba is a vocal advocate for decoupling defense and space. She is committed to creating opportunities for underrepresented communities and helping guide the industry towards a more equitable, ethical, and sustainable future.



Eden ABESLOM HABTESLASIE

Habteslasie, Eden Abeslom graduated with a Bachelor of Electrical and Computer Engineering with industrial control stream (Honor) at the Debre Berhan University and a master's student in Space Engineering at Addis Ababa Science and Technology University, Ethiopia. She is an Assistant Researcher in the Department of Aerospace Engineering Research and Development Directorate at the Space Science and Geospatial Institute. She's a coordinator at the Ethio Space Kids Club (ESKC) program and a program coordinator for the Women in Space and Engineering (WiSE) project, and an event coordinator of space technology for the earth application (STEA) voluntary project group of the Space Generation Advisory Council (SGAC). The Women Behind SGAC 2022 webinar was part of the series hosted by her for Giant Leap. She also actively participated in the Women in GEMS and Africa workshop in Cotonou, Benin in 2022, the UN/IAF 29th Workshop in Paris, France (2022), and the 5th African Space Generation Workshop Stellenbosch-South Africa (2021).



Akanksha HALE

Akanksha Hale is a third-year Mechanical Engineering student at the MET Institute of Engineering, Nashik. Akanksha's research interests predominantly lie in space exploration. With an insatiable curiosity and an analytical mind, she conducts in-depth research on various aspects of space missions, including spacecraft design, mission planning, and space propulsion. Her research endeavors are motivated by a desire to push the boundaries of space exploration and contribute to the scientific and technological advancements that will shape the future of humanity's journey to the stars. Her recent research paper was selected for presentation at the esteemed AIAA International Space Planes and Hypersonic Systems and Technologies Conference in 2023. Akanksha is grateful to the International Astronautical Federation committee for choosing her as one of just 30 individuals globally to participate in the prestigious 2023 Emerging Space Leaders Grant Programme.



Shravan HARIHARAN

Shravan Hariharan is an incoming Advanced Concepts Systems Engineer at Blue Origin, and a recent graduate from Massachusetts Institute of Technology (MIT) with a S.M. in Aeronautics and Astronautics. At MIT, his research focused on In-Situ Resource Utilization (ISRU), specifically with the production of oxygen on Mars to support future human space exploration. He is a member of the Mars 2020 Science Team working on the MOXIE project, which is the first ever demonstration of ISRU on another planetary body. At MIT, he worked on utilizing ground-based laboratory testbeds to further characterize the MOXIE system and inform design of a next-generation Martian oxygen production plant. At Blue Origin, he will be working on formulating and evaluating concepts for permanently crewed lunar and on-orbit platforms.

Shravan has also completed internships at various commercial and governmental space organizations, where he has worked on the design, manufacturing, testing, and operations of human-rated and robotic space systems at all project lifecycle phases. He is also an analog astronaut, having completed a mission at the Mars Desert Research Station as Crew Engineer. Shravan is passionate about the development of technology, policy, and commercial partnerships to enable sustainable human exploration of the solar system. Specifically, he believes that space is a resource that can be harnessed to improve the quality of life on Earth, which requires continued decreases in the cost of accessing space as well as international partnerships to ensure that all people can benefit from space-based infrastructure.



Aya HESHAM SAYED

Aya is a highly accomplished medical student pursuing a bachelor's degree in Medicine and Surgery from Ain Shams University, Egypt. Her passion for space medicine has led her to hold several positions that enable her to contribute to the advancement of human presence in space. Aya is a technical researcher at Sigma Fit LLC tech wear company. Their ultimate goal is to create clothes that are both stylish and provide robust protection in the harsh environment of the Moon and Mars. She has been nominated as one of the top 1% of medical students who have contributed to the field of space medicine in her country. Aya is a visionary leader who founded StarsFlyer with the goal of advancing space research and education. Her mission is to make space education accessible to underrepresented countries. With 4 years of experience as a space medicine researcher, Aya has published several papers in international journals, including authorizing 5 papers at IAC 2022 and a book chapter in Springer Nature. Through her work, she has been able to promote international cooperation and collaboration in the field of space research as a role model for women in tech. With her extensive space medicine experience, she brings a unique perspective from the MENA region on the role of international cooperation in space exploration. She firmly believes that global collaboration is essential to achieve significant advancements in space technology. Her work serves as an inspiration to many and has a far-reaching impact on the future of space exploration.



Madelyn HOYING

Madelyn Hoying is pursuing a Ph.D. in the joint MIT and Harvard Medical School Medical Engineering and Medical Physics program, and an M.S. in AeroAstro at MIT. Her Ph.D. research in the Tearney Lab at Massachusetts General Hospital investigates aerospace physiology leading to novel medical devices for long-duration spaceflight. Her M.S. research in the Aerospace Physiology Laboratory at MIT targets changes to neurological systems in spaceflight. Madelyn graduated from Duquesne University in 2020 with a B.S. in Biomedical Engineering and a B.A. in Physics, where she was a 2020 nominee for the NCAA Woman of the Year Award.

In addition, Madelyn designs and leads analog missions to test new technologies, human operations, crew dynamics, and recovery procedures in simulated planetary surface exploration missions. Analog research is one of her priorities to enable effective mission planning for human space activities; due to facility size and cost constraints, though, not many opportunities exist for student involvement in analog missions. To increase access to human space research and improve opportunities for international collaboration on missions, she has designed and implemented a framework for large-scale analog missions that creates opportunities for student engagement and accelerates test timelines, as researchers are no longer constrained by facility space.



Maren HÜLSMANN

Maren Hülsmann is a research associate and PhD candidate at the University of the Bundeswehr in Munich (Germany). Her work focuses on innovative approaches to Artificial Intelligence and Machine Learning for spacecraft operations by introducing AI-based spacecraft fault management. Her PhD research focuses on fostering trust in AI-based space systems through enhanced explainability. She received the ZONTA International Amelia Earhart Fellowship in 2022. She is a graduate from the University of Bremen with degrees in Industrial Mathematics. Her master's thesis on uncertainty analysis and optimal control of atmospheric re-entry in 2017 earned her the 2017 mathematics faculty award and the "Friends of ZARM" award in 2018. She was infected with the space bug while working at the DLR_School_Lab Bremen and serving as a student team lead when participating in the REXUS/BEXUS program. After her studies she worked as a Flight Dynamics Engineer at the German Space Operations Center before changing paths to pursue a PhD in the space field. As an active member of the Space Generation Advisory Council, Maren currently serves as Germany's National Point of Contact. Before this, she was the Co-Lead of the Space Safety and Sustainability Project Group. In 2020, she organized the first SG[Germany] local event. Her belief is that international cooperation is necessary to address pressing concerns such as space debris, and other safety challenges arising from growing space activities. Cooperation leads to innovation and technological progress which help us gain a better grasp of our universe while securing our place in it.



Mohammad IRANMANESH

Mohammad Iranmanesh is a Space Systems Engineer with a passion for innovation and entrepreneurship. Currently serving as Projects and Operations Manager at constellr, he leads the development and implementation of high-precision smart farming services using proprietary space infrastructure and data. With a background in Space Systems Engineering and technical leadership, Mohammad has previously worked on complex projects at renowned organizations such as RAL SPACE and THALES ALENIA SPACE, focusing on satellite hardware and software development.

He holds engineering degrees in Mechanical Engineering and Space Systems Engineering from UCLouvain and ISAE-SUPAERO, complemented by a certificate in management of innovation from HEC Paris.

Additionally, he has co-founded LIDE.space, a Belgian venture using sailplane gliders to perform parabolic flights that allow the testing of the payloads in quasi-Zero G.

Mohammad's unique expertise and accomplishments have earned him the privilege of being selected twice as an Analog Astronaut for the Mars Desert Research Station in Utah, while also serving as the National Point of Contact for the Space Generation Advisory Council (SGAC) in Belgium.

Mohammad firmly believes that international cooperation manages to transcend political and geographical boundaries only when there are goals that are genuinely shared by all of humanity. The pursuit of pushing the frontier of science and space exploration exemplifies such a goal, uniquely fostering a spirit of global collaboration to achieve groundbreaking advancements that positively impact the entire global community both in outer space and on Earth.



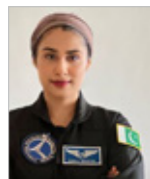
Saroj KUMAR

Saroj Kumar is a mission designer for advanced propulsion systems at the Propulsion Research Center and a Ph.D. candidate in the Department of Mechanical and Aerospace Engineering at the University of Alabama in Huntsville (UAH). His current research focuses on mission analysis and high-fidelity trajectory design for Nuclear Thermal Propulsion (NTP) systems along with integrated system modeling to determine optimum NTP engine parameters and mission architectures using Model Based Systems Engineering (MBSE). In his current role, he performs critical mission analysis for deep-space robotic missions for NASA's Space Nuclear Propulsion program. Saroj's other experience in the industry includes, working as a research affiliate for the NASA Jet Propulsion Laboratory for a New Frontiers class prephase A mission concept study and as a manager and team leader for a small satellite mission in India during which he developed MEMS based dual axis sun sensors and holds a patent for the development of reaction wheel actuator system. Over the years, Saroj has published more than 25 high-impact research papers on advanced in-space propulsion and spacecraft control systems. For his accomplishments, Saroj has received numerous awards, including Global top 20 outstanding young space and satellite professional '20 Under 35' by Space and Satellite Professionals International, the best IP award at the 73rd International Astronautical Congress, the AIAA GHS Student of the Year, Best paper award at Nuclear and Emerging Technologies for Space, Outstanding Researcher award, Propulsion Research Center Service Award to name a few.



Nur AWATIFF MOHAMAD RIZAL

Nur Awatiff currently as one of the directors for startup company named SpaceIn Sdn Bhd. SpaceIn is a space-based company that aspires to spearhead space exploration activity in Malaysia. Nur Awatiff was appointed as a manager for SpaceIn with the responsibility of carrying out the 'Inspire' missions to spread inspiration towards Space Education to the next space generation. Many Space Education activities had been conducted such as Space Camp, Cansat Competition, and Space Tours. Nur Awatiff is also currently a Ph.D. student in Aerospace Engineering at Universiti Sains Malaysia. Her research is focusing on the behavior of the Ionosphere layer during seismic activity using space-borne data. Starting to involve actively in aerospace activity right after finishing her bachelor's degree in aerospace engineering, USM. Started as research assistant for USM Space System Lab (USSL) by joining and helping to manage various types of space activities such as Space Camp, Space Connect, and participating in the Global Space Balloon Challenge. As her passion and interest in the 'SPACE' started to grow, Nur Awatiff decided to stay with USSL by persuading her master's in aerospace engineering. Throughout the journey, Nur Awatiff had the chance to be more active and able to follow the space sector activity outside of Malaysia such as an opportunity to join APRSAF (Asia-Pacific Regional Space Agency Forum) and as a delegate from Malaysia to participate in the APSGW (Asia-Pacific Space Generation Workshop 2019). Attending these events widens her perspective of space and inspired to continue her journey.



Sumbal MUSHTAQ

Dr. Sumbal Mushtaq is a medical doctor with a unique blend of specialties. While she is specializing in Emergency Medicine, her curiosity led her to explore the fascinating fields of Extreme and Wilderness medicine. However, it is her research background in Space Medicine that has truly ignited her passion.

Currently seeking a Ph.D. in reproductive studies, Dr. Mushtaq is focused on understanding human reproductive development in the space environment. Collaborating with Spaceborn United, she seeks to unravel the mysteries of human reproduction beyond the confines of Earth.

Dr. Mushtaq's journey began with an ambitious dream—to become a Physician Astronaut. As a Citizen Scientist-Astronaut Candidate at the International Institute of Astronautical Sciences, she is training to achieve her objective. She believes that the era of commercial spaceflight holds promise for her aspirations. But she is not content with personal success alone.

Driven by a deep sense of purpose, Dr. Mushtaq strongly advocates for the Space for All mission. She recognized a lack of awareness in her home country about the immense prospects of space exploration. This realization sparked her ambition to bridge the gap and make space education more accessible to young students, fostering their scientific knowledge and igniting their curiosity. She aims to educate young professionals in the space sector, especially women from underdeveloped nations.

With each step she takes, she strives to contribute to the frontiers of space medicine and education, leaving a lasting impact on both the scientific community and the aspiring scientists she empowers along the way.



Ahmed E S NOSSEIR

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., *culture 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.



Didunoluwa OBILANADE

Didun is from Wales, UK, having been born in Nigeria. He is a Doctoral student at Luleå University of Technology researching Design and Qualification of Additive Manufacturing (AM) for Space Applications.

He holds an MSc in Astronautics and Space Engineering from Cranfield University, having read General Engineering at Grey College, Durham University. Didun received the Royal Academy of Engineering and RAeS MSc Award and obtained a Joint UKSA-ESA scholarship to attend the International Space University's Space Studies Program; hosted by NASA Glenn Research Centre in Ohio, USA. Didun recently published his Licentiate thesis, "Surface Roughness Considerations in Design for Additive Manufacturing: A Space Industry Case Study."

He has previously attended IAC and SGC as a UK delegate, most recently in 2019, where he worked as the NASA Space Exploration Working Group moderator. Additionally, he received the "Young ESA - SGAC Diversity Scholarship 2017" for his essay and spoken word poem "Space 4.0 a United Europe."

Before his PhD, Didun was the Programme Manager for the Board of the UK Government's Aerospace Growth Partnership. He also worked on Design for AM for aerospace structures at the GKN Aerospace AM Centre in Bristol, UK.

Through his passion for the space industry, Didun has worked worldwide. Through this global experience, he believes that international cooperation within the industry can bring long-lasting solutions to the global issues of sustainability, climate change and inequality.



Sebasthian ALEJANDRO OGALDE CASTRO

Sebasthian is a Chilean analog astronaut, embedded systems engineer, entrepreneur and aspiring astronaut. He graduated from both Pontificia Universidad Católica de Chile and Politecnico di Torino. Before taking on a position as an automotive engineer in Turin, Italy, he contributed to the testing and integration of European Space Agency's Euclid space telescope for several years. He aspires to become the first Chilean in space.

As the CEO and Co-Founder of the pioneer company Andes Aerospace, he is leading a team of interdisciplinary professionals to bring space technologies to strategic industries such as Mining, Defence and Emergency Handling in Latin America and Europe. Through his leadership, Andes Aerospace brings and implements advancements in these sectors, propelling them towards a future infused with innovation, and allowing them to integrate space-for-space technologies into their processes and services.

Sebasthian firmly believes that the most effective approach to harnessing the potential of the space sector in Chile and Latin America lies in fostering collaboration among relevant industry stakeholders. To this end, he has founded the Chilean Space Hub, a platform that serves as a nexus for space actors to seamlessly connect and establish mutually beneficial relationships.

Beyond his professional endeavors, Sebasthian possesses a strong interest in science outreach through both social and formal media platforms, recognizing the profound impact of science on education in South America. In 2022, he organized and led the First Space Conference in Antofagasta, Chile, alongside being the Event Manager of the 4th Italian Space Startup Competition, an event hosted by the Space Generation Advisory Council (SGAC).

Sebasthian's diverse range of interests extends beyond aerospace. He is an scuba diver, a skilled private pilot, and a polyglot. These additional pursuits speak to his dedication to personal growth and space exploration. To learn more about his space career visit: <http://astro-ogalde.cl> [in Spanish].



Matej POLIACEK

Matej is currently working in the ISS Flight Operations, as a member of the Columbus Flight Control team, responsible for the commanding and monitoring of the Columbus systems and payloads, as well as providing support to the astronaut crew and other flight control positions in regards to technical aspects of the module. This includes supporting payload operators from NASA and Europe performing science runs in the Columbus module, either purely from the ground, or with the involvement of the crew. In addition, Matej and the team prepare, plan and execute projects and specialist activities such as on-board hardware and software upgrades, or maintenance and module upgrades in collaboration with the astronauts.

Previously, Matej was active in the newspace ecosystem, working in a mobile robotics company Robotech s.r.o developing and field-testing solutions for a variety of autonomous applications, including space. He also collaborated with a cubesat integrator company Spacemanic, developing mission simulations and conducting mission analysis. He is a co-founder of a ground-segment oriented space start-up Groundcom, which was incubated by the European Space Agency, and has secured private funding.

His professional experience in the space industry started with a young graduate traineeship at the European Space Agency, specialising in software engineering, and data and system modelling.

His wide variety of contributions was recognised by Forbes Slovakia by a 30 under 30 award in the Science & Education.



Hasel RAMIREZ CORTES

Hasel is a Mexican space enthusiast currently pursuing her bachelor's degree in Aeronautical Engineering at the Instituto Politécnico Nacional in Mexico City. She has been involved in university engineering projects such as aeromodelling and high-power rocketry. She has led the structural and aerodynamics design of sounding rockets for national and international rocketry competitions. Furthermore, she has launched Level 1 and Level 2 rockets to obtain high-power rocketry certification from the Tripoli Rocketry Association.

Her areas of interest are rocket propulsion, aerodynamics, materials, and structures. She has collaborated in the structural design of solid rocket motors. She has also conducted research on structures and new materials for small satellites. Currently, she is working on composite and smart materials for aerospace applications. Hasel was selected by the Mexican Space Agency to participate in the International Space Education Board at the 74th International Astronautical Congress in 2022.

She is a conference speaker on aerospace topics, her main purpose is to share the importance of space technology development and inspire new generations, especially encouraging Mexican girls to get interested in STEM fields by giving them mentoring.

She hopes that opportunities for accessing space for all increase. Therefore, she is collaborating on initiatives to contribute to the regulation of space activities, such as launch vehicles and rocket motors in her country. Hasel firmly believes that space exploration has the potential to address global challenges that transcend national borders through international cooperation. By working together, nations can achieve greater scientific discoveries. However, this cooperation truly needs to include all countries, as each of them possesses brilliant minds that, together, can develop the required technology to reach outer space.



Anurag SAKHARKAR

Anurag is currently an undergraduate student at the University of Saskatchewan in Canada, as well as a space biologist at Yuri, a startup space bioscience company currently headquartered in Germany. Anurag has been involved in biomedical research since high school, and his multidisciplinary background in neuroscience, cancer research, and bioinformatics, has provided an important foundation for his research so far, allowing for unique insights that defy current approaches to space health.

As a young scientist, Anurag's first research paper was recently published in Life. His passion for research has been instrumental in driving his learning and work so far, and will continue to be an important impetus in his future in space research. He has presented his research at multiple international space conferences, and is committed to broadening international cooperation in space.

Anurag believes that space is humanity's future, and that collaborative efforts are essential for the future of space exploration, allowing us to pursue more and more complex challenges, and share the intellectual and physical resources of the global community to address our future in space.

With each new project, Anurag is driven by a sense of responsibility to contribute to the advancement of our understanding of life on and beyond Earth. Anurag knows that his research truly does have cosmic potential, and is excited for his future in space biosciences!



Eliza SAPKOTA

FloatSat 2020, an online course by University of Wurzburg, Germany, jointly organized by Orion Space was my first learning experience about Space. Through my internship at Antarikchya Pratisthan Nepal (APN) [Nepal Space Foundation], I learned about Satellites mainly CubeSat, received hands-on Satellite operation training by collecting on-orbit data of Nepal's First satellite; NepalSat-1 using a ground station at Nepal Academy of Science and Technology (NAST). I completed my Bachelor's in Mechanical Engineering at Kathmandu University in 2022. Currently I am working as a Satellite Research Fellow at Antarikchya, where I mentor 9 high school students as part of Project Munal, Nepal's 1st High School Satellite. I handle Structure Design, Integration and Testing and the ADCS subsystem of Munal. I am Nepal's Project Manager of award winning payload: APN_LoRa_Payload recognized under Access to Space for All Initiative: Payload Hosting Initiative (PHI) program by UNOOSA awarded in collaboration with MBRSC. This payload is being hosted by 12U CubeSat of MBRSC. Despite being non-space faring country, Nepal is actively seeking for international opportunities in Space, with focus on capacity building, knowledge sharing and advancements in science and technology. For a disaster-prone country like Nepal, space-based technologies for environmental monitoring and conservation are vital for sustainable development. Space education in schools and universities is an essential factor for young minds who see their career in Space. Working at Antarikchya has given me the opportunity to fulfill the goal of educating young space enthusiasts, providing them with learning opportunities and platforms to actually work on Space projects.



Kwerit SARAH

Kwerit Sarah Chebijira is the Founder and CEO of Eco-Sense Cities Uganda, a pioneering waste management company aimed at revolutionizing waste practices in Uganda. As a United Nations Youth Fellow, she actively contributes to youth-focused initiatives and advocates for sustainable development. Kwerit is also actively involved in the Youth Climate Voices Project, where she is building capacity in understanding solar radiation modification as well as catalyzing discussions on the need for governance in this area. As a result, Kwerit has developed a deep curiosity in understanding the inter-linkages between space and climate change, with a particular focus in understanding how space can contribute to adaptation and mitigation efforts.



Oshan SHARMA KATTEL

An undergraduate Physics student at Amrit Campus, Tribhuvan University, Oshan Sharma Kattel is a 22 years old NPOC of the Space Generation Advisory Council (SGAC) from Nepal and an undergraduate student member of the Nepal Astronomical Society (NASO) who is actively engaged in promoting Astronomy and Space Science in Nepal.

As a strong astronomy and space enthusiast, Mr. Kattel has been actively involved in promoting Space Science Education in Nepal under various banners. With four provisional discoveries of the main belt asteroids in his name, he is the province coordinator of Koshi Province for World Space Week Nepal and is also a part of the NASA International Space Apps Challenge as a Local Co-Lead for his province. Mr. Kattel has also been instrumental in lobbying for the establishment of the Astronomy and Space Science Study Research Committee within the policy framework of Biratnagar, a metropolitan city in Nepal.

Mr. Kattel shares the vision of "Space for All". He firmly believes that space unites everyone as we share the same sky despite our differences and since all parts of the world are not advanced at the same pace, international cooperation is crucial to address the varying levels of development worldwide and ensure uniform progress and advancement. International Astronautical Congress (IAC) is a platform that unites diverse global space enthusiasts, fostering collaboration and a shared mission. As one of the largest gatherings for space lovers, he believes IAC provides an unmatched opportunity to exchange knowledge, ideas, and innovations that will shape the future of space exploration.



Bader SHIRAH

Bader Shirah is a physician and an eminent researcher from Saudi Arabia. Dr. Shirah built the field of space medicine in Saudi Arabia from scratch. He was initially selected to contribute to the strategic plans of the Saudi Space Commission following the establishment of the Saudi Space Commission on December 27, 2018. He then had many meaningful contributions and represented the Kingdom in international scientific activities. Dr. Shirah achieved several important milestones that were the building blocks for the futuristic field of space medicine in Saudi Arabia. These include publishing the first set of papers from Saudi Arabia, publishing the first book on space medicine in the Arabic language, and conducting workshops to educate Saudi students and scientists on the emerging field of space medicine. He also founded the first Saudi company specializing in space medicine research and development. He is currently working on taking his contributions to the next level and conducting in-space research to better understand the effects of microgravity and radiation on the human body.

Dr. Shirah displays sincere commitment and a real interest in continuing research productivity and advancing science and space medicine for the betterment of humanity. He is seriously keen and intense to learn with exquisite interest in novel research projects that have a major impact on science. His numerous publications have been well-received and have made a significant impact to establish and develop the field of space medicine in Saudi Arabia. His work has been cited more than a thousand times by top-notch scientists around the world.



Liberty SHOCKLEY

Liberty Shockley is an independent consultant providing research services on satellites, ground operations, and space policy to small businesses, government teams, and those interested in learning more about the field.

Liberty spent her early career as an engineer with experiences at NASA and then became an Officer in the U.S. Air Force, where she spent time developing alternative navigation techniques for air and spacecraft. She holds a Bachelor's in Aerospace and a Master's in Astronautical Engineering, where she was first exposed to space law. She worked with various early-stage projects, advising on international space law, strategic uses, and geopolitical perceptions. Later, as one of the first officers in the U.S. Space Force, she worked on the launch, operation, and demise of experimental satellites. She served as the lead for a Mobile RF Range, commanding a team of 15 soldiers with 6 rapid-deployable antennas. She helped found the New Mexico Chapter, Society of Flight Test Engineers, and has been a member of the European Centre for Space Law. Liberty is a specialist for South Asian language and cultural studies, and has been developing her space law and policy expertise for the past 4 years, which she is excited to continue full-time.

Liberty believes that we must work diligently toward a solution for peaceful and fair governance in space, learning from our often-excluded partners and non-Western perspectives. She believes she can serve the community by bridging the "language barrier" between lawyers and engineers as we move toward a new world in space.



Salman ALI THEPDAWALA

Salman Ali Thepdawala is a Pakistani aerospace engineer currently pursuing his PhD as a Munich Aerospace Scholar at the Universität der Bundeswehr – Munich, Germany, specializing in AI-based Onboard Collision Avoidance in Large Multi-Satellite Systems. With a passion for space exploration, mission design, and AI applications, he actively engages in projects that leverage his knowledge of systems engineering.

Beyond academia, Salman Ali consults for Neutron Star Systems, contributing to projects and representing the space start-up. His dedication to advancing the space ecosystem extends further as he actively contributes to various space sector NGOs. He currently serves as the National Coordinator for Germany at the Moon Village Association and plays a vital role as the Partnerships Lead for the Space Safety and Sustainability Project Group at the Space Generation Advisory Council (SGAC).

Salman Ali's dedication earned him the 2023 European Space Leaders Award at the 7th European Space Generation Workshop. He also led his team to first place across Pakistan in both the NASA Space Apps and ActInSpace competitions, showcasing his leadership and technical skills. He holds a Master's degree in Space & Engineering Systems from the Skolkovo Institute of Science & Technology in Moscow, Russia, and a Bachelor's degree in Aerospace Engineering from the Institute of Space Technology in Islamabad, Pakistan. He also completed an exchange semester at the University of Missouri-Columbia, U.S.A., further solidifying his foundation in the field of aerospace.

Salman Ali firmly believes in the importance of international collaboration for safe space operations. He advocates for concepts such as secure decentralized space systems and autonomous orbit organizations, which will foster cooperation, innovation, and ensure sustainability in the global space community.



Danny TJOKROSETIO

Danny Tjokrosetio is an Indonesian aerospace engineering Master's student specializing in space structures at the Delft University of Technology. Currently based in the Netherlands, he believes that there is no better way to prepare for the Moon than living in the land of cheese.

Passionate about bringing space to the general public, Danny is an avid space communicator who thinks he's funny. He is known as @galactic.greaser on social media, captivating a global audience with his engaging and humorous content on space and engineering topics. Between 2021 and 2022, he was an education officer at Da Vinci Satellite, a student team developing an educational CubeSat. There, he performed outreach activities and created space educational materials for elementary schools. He currently volunteers at Antarexxa Space Global, an Indonesian startup focused on raising space talents from emerging nations.

Danny is a coordinator of the Space Generation Advisory Council's DREAM project, an initiative to improve the efficiency of analog missions. In addition, he is a member of Team Tumbleweed's science division, whose name, to his delight, aligns with his love for country music. The organization's goal of sending wind-driven rovers to Mars also allows him to participate in the revolution of deep space exploration access.

To Danny, the pursuit of passion is a primary principle, having chased his space dreams established in early childhood after a (false) revelation that he might be an alien. His other passions include standup comedy, writing and performing music, dancing, and microdosing Wikipedia pages.



Victoria VALVIDIA CERDA

Victoria Valdivia Cerda is political scientist from Chile, she holds a Magister degree in International Relations. Victoria has been worked as space policy advisor contributing to the formulation of Chile defense whitepaper (2017) and to the National Defense policy (2020). Currently she is Senior Analyst at the Center for Strategic and Military Studies (CESIM) at the Army of Chile and lecturer on "Space policies" at the National Academy of Strategic and Politics Studies (ANEPE) from

Ministry of Defense in Chile. As a volunteer, Victoria is a mentor at the initiative of "space4women", National Coordinator of WSW, and Chair for Chile of G100 "Space & Technology" wing.



James XIE

James is a Chemical Engineering and Chemistry professional with four years of experience in the manufacturing sector across various industries worldwide. His involvement in the space sector began during his undergraduate studies at Queen's University, where he led student teams in competing in rover design challenges by the Mars Society and co-founded a CubeSat design team at Queen's.

While working as an operations consultant at Stroud International, James actively contributed to the Canadian space sector through his volunteer work with SEDS-Canada. He has been involved with managing and supporting SEDS-Canada's projects, including the stratospheric balloon experiment design challenge. Additionally, he has been involved in the international space community as the engineering team lead for the SGAC Domi Inter Astra lunar settlement design project.

Currently, James is pursuing a Master of Space Studies degree at the International Space University. He is beginning his career in the space industry as a systems engineer at AAC Clyde Space where he aims to continue promoting the accessibility of space.

James holds a strong dedication to space and STEM education. He is actively involved in expanding the reach of SEDS-Canada projects to more students and improving the effectiveness of programs aimed at teaching students the necessary skills for success in the space sector. He firmly believes that space, in particular, offers a unique platform for interdisciplinary and international collaboration among students that is critical to helping them develop the skills and mindset for today's challenges in the world.



Ruida XIE

Ruida Xie has a B.E and M.E from Harbin Engineering University and a PhD from University of New South Wales (UNSW). He has conducted his research at Australian Centre for Space Engineering Research (ACSER) for the past 4 years. His research interests include off-Earth mining & Space Resource Utilisation (SRU), mission design and trajectory optimisation. Particularly, he is interested in the application of artificial intelligence and big data in space sector. He is an active researcher in these areas and has published his work on multiple journals and conferences. He is looking forward to sharing his insights on space mining and resources utilisation with the space people from all around the world at IAC.

His past research experience includes the design of attitude control system and task planning for remote sensing satellites, etc. In 2017, he was awarded the China National Scholarship from Ministry of Education in recognition of his academic achievements. In 2018, he was granted the University International Postgraduate Award from UNSW to pursue his PhD. In 2019, he won the top-up scholarship from Commonwealth Scientific and Industrial Research Organisation (CSIRO). In early 2021, his PhD project was granted for High-Performance Computing (HPC) resources from Australian National Computational Infrastructure (NCI Australia).

1.3.3 Future Space Leaders (FSL) Grant Programme

The Future Space Leaders Foundation (FSLF) is pleased to announce the 2023 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 74th International Astronautical Congress (IAC) to be held in Baku, Azerbaijan, October 2-6 2023. In addition to attending the IAC, Grant Recipients will also be involved in supplementary career development activities in Baku. These IAC-associated events include the Cross-Cultural Presentation Workshop, the United Nations/International Astronautical Federation (IAF) Workshop and the Young Professionals Workshop. These additional activities will necessitate Grantees' presence in Baku, Azerbaijan, beginning on September 27.



Elizabeth BARRIOS is an avionics materials failure analyst at NASA's Marshall Space Flight Center. Working in the Avionics Division of the Space Systems Department, Elizabeth's work focuses on the failure analysis of avionics components for NASA & its commercial partners, the DoD, and the FAA. She is also a co-founder of the A2MPERES Lab at MSFC where multiple researchers are focusing on the development of Advanced Avionics and Materials for Energy Research and Environmental Sensing. The work ongoing in this lab encompasses efforts for the in-space manufacturing efforts for printed electronics and sensors. Previously, she was a Materials Research Engineer with the National Institute of Aerospace focusing on the development of in-situ monitoring tools for the surface preparation of carbon fiber polymer composites for adhesive bonding and the atomistic modeling efforts for the development of all solid-state lithium ion batteries.



Srinivasa (Aditya) BHATTARU is a systems engineer working at Blue Origin, working on integration and development of human spaceflight vehicles. He currently works as an integrator on the Blue Moon lander project selected by NASA's Artemis program, as well as supporting flight operations of the New Shepard vehicle as a crew systems chair; he has also worked on other human spaceflight programs at Blue, including the Orbital Reef program. Aditya brings valuable research experience in systems engineering, astrobiology, and planetary science, with a keen interest in working across interdisciplinary and international boundaries. He was a National Science Foundation Graduate Fellow and a recent graduate of the International Space University's Space Studies Program. Aditya holds a B.S. in Mechanical Engineering from Caltech and an M.S. in Aeronautics and Astronautics from MIT.



Julia DI is a Ph.D. candidate at Stanford University, studying sensing and perception for robotic manipulation. She hopes that one day her robots will enable scientific exploration and improve the lives of many for the better. She has received a NASA Space Technology Graduate Research Fellowship, National Science Foundation Fellowship, Women in Aerospace Scholarship, and an Aviation Week Twenty20s Award. She is also a Class of 2018 Brooke Owens Fellow, and a young professional mentor for the Zed Factor Fellowship and Patti Grace Smith Fellowship. She graduated with a B.S. in Electrical Engineering from Columbia University and an M.S. in Mechanical Engineering with a focus on Mechatronics at Stanford University.



Shravan HARIHARAN is an incoming Advanced Concepts Systems Engineer at Blue Origin, and a recent graduate from Massachusetts Institute of Technology (MIT) with a S.M. in Aeronautics and Astronautics. At MIT, his research focused on In-Situ Resource Utilization (ISRU), specifically with the production of oxygen on Mars to support future human space exploration. He is a member of the Mars 2020 Science Team working on the MOXIE project, which is the first ever demonstration of ISRU on another planetary body. At MIT, he worked on utilizing ground-based laboratory testbeds to further characterize the MOXIE system and inform design of a next-generation Martian oxygen production plant. At Blue Origin, he will be working on formulating and evaluating concepts for permanently crewed lunar and on-orbit platforms.



Emma LOUDEN is an astrophysicist, strategist, and speaker. She is a Ph.D. candidate in astrophysics at Yale University. She is passionate about future-focused strategy for astrophysics, engaging the public with space exploration, & philanthropic work focused on applying evidence-based solutions to solve the world's most pressing problems. When not working on her Ph.D., she focuses on my STEM workforce project, Space to Sparkle, her podcast, & supporting the next generation of astronomers through the Summer Science Program.



Owen MARR is a Systems Engineer at Blue Origin working on the New Shepard program. He is dedicated to improving the accessibility of space through human exploration and commercial development. Owen works on several aspects of New Shepard including payload integration, astronaut devices, and mission development. He also works with the University Relations team at Blue to promote university collaborations and student recruitment. Outside of Blue, Owen is the Chair of SEDS USA's Young Professional Advisory Board where he advises and assists the student leaders of SEDS. Owen holds a BSE in Aerospace Engineering (2020) and a MEng in Space Engineering (2021) from the University of Michigan. As a student he was heavily involved with SEDS as the SEDScast host and as President of the Michigan chapter. Owen served as a graduate instructor for the Aerospace MBSE course series during his grad studies. Outside of space, Owen enjoys boating, snowboarding, and playing soccer.



TOBIAS NIEDERWIESER is an Assistant Research Professor at BioServe Space Technologies within the University of Colorado Boulder where he serves as Principal Investigator on several grants for space life science experiments. Of particular focus is the in-space manufacturing of human pluripotent stem cells for regenerative therapy applications on Earth. Previously, he led the development of several novel facilities operating continuously onboard the ISS including science incubators, centrifuges, life support systems, as well as crew galley refrigerators and is currently developing similar facilities for commercial and lunar space stations. Additionally, Tobias was involved in a radiation biology experiment onboard Artemis-I conducting the furthest active biology experiment with sample return ever performed. He is honored to have been named a NASA Group Achievement Award recipient, an AIAA Orville and Wilbur Wright Graduate Award fellow, and an Aviation Week Twenty20s awardee. Originally born in Austria, Tobias received his bachelor's degree from the Technical University of Munich in Germany before moving to the United States for his master's and doctorate degrees in bioastronautics and taking part in the International Space University's Space Studies Program in Israel. In his free time, Tobias performs outreach for human spaceflight and enjoys using his Private Pilot Certificate.

1.4 IAF/ISEB Educators Professional Development Workshop

Date: Saturday 30 September 2023

Time: 11:00 – 17:00

Venue: Azerbaijan National STEAM Innovation Center

The "STEAM Azerbaijan" project started from the 2019-2020 academic year with the initiative of First Vice President Mehriban Aliyeva and the support of the Education Institute of the Ministry of Education.

STEAM education method is a combined organization of 5 main disciplines. It is based on the idea of teaching Science, Technology, Engineering, Art, and Mathematics in a joint and integrated manner. The main goal of the STEAM project is to develop 21st century skills - creativity, critical thinking, cooperation in the students studying in the general education schools of the Republic, to show students the application of scientific and technical knowledge in everyday life through practical exercises, to teach them engineering skills, to use modern ICT equipment by applying various programming languages. to increase their ability to use.

The project is taught in STEAM schools starting from the 6th grade.

STEAM classes for "3D printing", "Microbit programming", "Electrical engineering", "Biotechnology", "Nanotechnology", "Robotics", "Genetic engineering", "CNC laser cutters", "Unmanned aerial vehicles (educational drones)" organized according to the prepared curriculum.

From the 2021-2022 academic year, the number of students covered by the STEAM project in the Republic is expected to be 50,000-100,000 from 302 general education schools. As part of the scope expansion, it is planned to create 15 STEAM Centers across the country.

Saturday 30 September 2023

| Time: | Programme: |
|---------------|--|
| 11:00 - 11:30 | Arrival of Participants and Registration |
| 11:30 - 12:30 | STEAM Integrated Group Teambuilding for Participants |
| 12:30 - 13:30 | Lunch |
| 13:30 - 13:35 | Introduction of today's seminar |
| 13:35 - 13:45 | Welcome Remarks Mr. Dunay Badirkhanov Deputy Chairman of the Board of the Space Agency of the Republic of Azerbaijan |
| 13:45 - 14:15 | Keynote remarks Mr. Igrar Nazarov National STEAM Innovation Center The Ministry of Science and Education of the Republic of Azerbaijan |
| 14:15 - 14:30 | Coffee and tea break |
| 14:30 - 14:50 | Introduction to JAXA Provides overview of JAXA's space programs Mr. Shingo Maruoka JAXA Space Education Center |
| 14:50 - 15:20 | Lecture 1: Introduction to Space Education and ISEB Dr. Kate Kitagawa Director of JAXA Space Education Center |

| | |
|---------------|--|
| 15:20 - 15:40 | Workshop 1: Space education material related to moon exploration Introduces educational materials from JAXA and ISEB/Artemis. JAXA Space Education Center |
| 15:40 - 15:50 | Coffee and tea break |
| 15:50 - 16:20 | Lecture 2: Gender equality in STEAM Education Ms. Sitara Mehkdiyeva Head of Spectrum Management Division |
| 16:20 - 16.40 | Discussion and Closing Remarks Official Certificate Ceremony and Group Photo |
| 17:00 | Adjourn |

1.5 Cross-Cultural Communications and Presentation Workshop

Date: Sunday 1 October 2023

Time: 08:15 - 13:30

Venue: BCC A5

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:



Ken DAVIDIAN

Dr. Ken Davidian has worked for the FAA's Office of Commercial Space Transportation (AST) in Washington, DC since 2008 and is currently the AST Director of Research and Program Manager for the FAA Center of Excellence for Commercial Space Transportation. Dr. Davidian currently serves as a member of the Ohio State University Aerospace Engineering External Advisory Board, Associate Editor of the New Space Journal, Chair of the IAF Entrepreneurial & Investment Committee, and Vice Chair of the IAF Space Economy Committee. Dr. Davidian is a corresponding member of the International Academy of Astronautics, and an Advisor to the Space Generation Advisory Committee's Commercial Space Project Group. Prior to FAA AST, Dr. Davidian worked for the NASA Lewis Research Center, International Space University, Paragon Space Development Corporation, X PRIZE Foundation, and NASA Headquarters. Dr. Davidian received his BS degree in Aeronautical and Astronautical Engineering from the Ohio State University in 1983, and an MS degree in Mechanical Engineering from Case Western Reserve University in 1987. He attended the International Space University Summer Session Program in 1989. Dr. Davidian received his PhD in Business Administration from the University of Cape Town, Graduate School of Business, in 2018. His thesis focuses on innovation management, and understanding the processes of emerging and evolving markets..



Bernard FOING

Prof. Bernard H. Foing, president Space Renaissance International, executive director of ILEWG, EuroMoonMars & ArtMoonMars manager, Prof VU Amsterdam, Leiden observatory, ISU and EPFL, on leave from CNRS, former ESA Chief Scientist and chair of ESTEC staff association committee (2012-2017) & SMART-1 Lead scientist. Chair IAF ITACCUS, member IAF committees (TAC, GLEX IPC, space exploration, astronomy, space habitats, traffic management), full member IAA International Academy of Astronautics since 2010, vice-chair COSPAR planetary and PEX Planetary Exploration Panel, co-director IMA International Moonbase Alliance, founder Moon Village & MV Association, EGU space instrumentation officer, president MoonGallery foundation (moongallery.eu). Worked at ESA ESTEC(1989-2020), as ESTEC staff committee chair (2012-2017), senior scientist, advisor to DG, Chief scientist, Head of Research Division, study lead (SIMURIS, MORO lunar orbiter, EuroMoon lander), staff, visiting scientist fellow. Co-Investigator of SOHO, XMM, BIOPAN, SMART-1, Mars Express, COROT, ISS/Expose, ExoMars. Publications: 830 articles, including 225 refereed papers. Academics: Habilitation 1990, CNRS, post-doc astronomer ESO European Southern Observatory Chile, PhD astrophysics & space techniques (CNRS, Lockheed, SacPeak, Boulder, Harvard), Prof agrégé Physics, Ecole Normale Supérieure ENSET Paris-Saclay.



Matias CAMPOS

Matias is an Ecuadorian engineer and space enthusiast. He graduated from Worcester Polytechnic Institute (USA), where he obtained his Bachelor and Master of Science degrees in Aerospace Engineering. Matias is the founder and CEO of Astralintu Space Technologies, a startup focused on providing in-orbit services for emerging countries. Additionally, Matias volunteers as the STEM Program Director for the Sideralis Foundation acts as the SGAC's National Point of Contact for Ecuador, and is the current Vice-Chair of the IAF Administrative Committee for Developing Countries and Emerging Communities. Matias has been recognized as an Emerging Space Leader by the International Astronautical Federation.

2 Associated Events

2.1 IAF IDEA "3G+" DIVERSITY PROGRAMME



"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 4 October
Time: 08:00 - 08:45
Venue: Baku Convention Centre
Location: Federation's Terrace

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 – 08:10 **Welcome**
Clay Mowry, President, International Astronautical Federation (IAF), France



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



08:10 – 08:25 **Presentation by Sponsor**
Larry James, Deputy Director, NASA Jet Propulsion Laboratory (JPL) United States



08:25 - 08:45 **Networking**

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

Date: Wednesday 4 October
Time: 12:30 - 13:30
Venue: Baku Convention Centre
Location: Federation's Terrace

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 2022 IAF Excellence in "3G" Diversity Awards, bestowed to the Colegio Federado de Ingenieros y Arquitectos de Costa Rica (CFIA) and the L'SPACE NASA Proposal Writing and Evaluation Experience (NPWEE) Project.

Colegio Federado de Ingenieros y Arquitectos de Costa Rica (CFIA)



"Joining Central American young, women, and indigenous peoples in Space through first Central American space project"



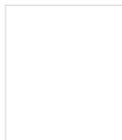

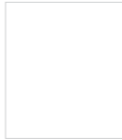



L'SPACE NASA Proposal Writing and Evaluation Experience (NPWEE) Project



"For recruiting and preparing a multigenerational and diverse space sector workforce while innovating over 100 new technologies"

Programme:

| | | |
|---------------|--|--|
| 12:30 – 12:31 | <p>Welcome Clay Mowry, <i>President, International Astronautical Federation (IAF), France</i></p> |  |
| 12:31 – 12:40 | <p>IAF Excellence in "3G" Diversity Award Ceremony Anthony Tsougranis, <i>IAF VP for Honours and Awards, International Astronautical Federation (IAF), United States</i></p> |  |
| 12:40 – 12:15 | <p>Modern Space Leaders Panel Doreen Bogdan-Martin, <i>Secretary-General, International, Telecommunication Union (ITU)</i></p> <p>Pamela Melroy, <i>Deputy Administrator, National Aeronautics and Space Administration</i></p> <p>Gwynne Shotwell, <i>President and CEO, SpaceX</i></p> <p>Moderation by Mishaal Ashemimry, <i>IAF VP for Diversity Initiatives, International Astronautical Federation (IAF) and Aerospace Consultant & Special Advisor to CEO at the Saudi Space Agency.</i></p> |     |

2.2 13th IAF International Meeting for Ministers and Members of Parliaments (Closed Meeting)

Date: Sunday 1 October 2023
Venue: The Milli Majlis (Parliament) of the Republic of Azerbaijan
1, Parliament Avenue, AZ 1152 Baku, Azerbaijan



Including Space Solutions in the Political Agenda – A Must for Policy Makers

Sunday 1 October 2023

The Meeting will take place in the Plenary Hall of the Milli Majlis of the Republic of Azerbaijan

| | |
|-------|--|
| 08:30 | <p>Welcome Coffee</p> |
| 09:00 | <p>Welcome Remarks</p> <ul style="list-style-type: none"> • Clay Mowry, <i>President, International Astronautical Federation (IAF)</i> • TBD, <i>Parliament of Azerbaijan, IAC 2023 Host Country</i> • Dominique Tilmans, <i>Special Advisor to the IAF President on Parliamentarian and Ministerial Relations and Master of Ceremony of the 13th IAF MMoP Meeting, International Astronautical Federation (IAF)</i> • TBD, <i>Italian Representative, IAC 2024 Host Country</i> |
| 09:45 | <p>Session 1: Space Solutions Enhancing Public Services <i>Space data and applications can have a direct impact on the challenges faced by policy makers both in cities and in rural areas. In particular, they can provide information that can be used to tailor public services such as public transportation, viability, healthcare, waste management but also urban planning and culture.</i></p> <p><i>Presentation and Moderation by TBD</i> <i>Intervention by Ministers and Members of Parliaments</i> <u>Roundtable Discussion</u></p> |
| 10:45 | <p>Session 2: Space Solutions for Disasters and Risk Management <i>With the increase of extreme natural phenomena, the capability of monitoring large areas, of forecasting weather, and assessing damages after a natural disaster became a core element of every administration. Luckily, space data can provide fast and reliable instruments to counteract and prevent disasters. For this reason, understanding space's key role for risk management and developing forms of cooperation to access space data is now a must for policy makers.</i></p> <p><i>Presentation and Moderation by TBD</i> <i>Intervention by Ministers and Members of Parliaments</i> <u>Roundtable Discussion</u></p> |
| 11:45 | <p>Session 3: Space Solutions for Resources Management <i>The proficient management of natural resources has an incredible impact on states' economies. Space technologies and application can support decision makers in mapping their resources, identifying the best ways of handling them for the benefit of the whole society, and protecting the environment.</i></p> <p><i>Presentation and Moderation by TBD</i> <i>Intervention by Ministers and Members of Parliaments</i> <u>Roundtable Discussion</u></p> |
| 12:45 | <p>Closing Remarks</p> |

- **TBD**, Parliament of Azerbaijan, IAC 2023 Host Country
- **Dominique Tilmans**, IAF VP for Parliamentarian and Ministerial Relations and User Communities and Master of Ceremonies of the 13th IAF MMoP Event

| | |
|-------|--|
| 13:00 | Adjourn and Group Picture |
| 13:05 | Lunch Break |
| 14:00 | 13 th IAF MMoP Event Press Conference (upon request by MMoP Participants) |
| 19:00 | IAF International Meeting for Ministers and Members of Parliaments Cocktail and Dinner Shirvanshah Museum Restaurant 86 Salatin Asgerova, Baku 1009, Azerbaijan |

Monday 2 October 2023

The IAC 2023 will take place in the Baku Convention Centre (BCC) and in the Heydar Aliyev Center (HAC) located in 130 Tabriz St, Baku, Azerbaijan

| | |
|---------------|---|
| 08:30 - 09:15 | VIP Gathering – Room TBD (IAC 2023 venue) |
| 09:30 - 11:00 | IAC 2022 Opening Ceremony Paris Hall, Third Floor (Paris Convention Centre) – Reserved VIP Seats for the MMoPs |
| 11:15 - 12:15 | Opening of the IAC 2023 Exhibition and VIP Tour <ul style="list-style-type: none"> • Gathering at the entrance of the Exhibition Hall • Opening and Tour through the Exhibition |
| 12:30 - 13:30 | ESA VIP Luncheon – BCC Federation’s Terrace |
| 13:45 - 15:15 | Plenary Event 1: Heads of Space Agencies Heydar Aliyev Center (HAC) - Auditorium |
| 15:15 - 18:00 | Free time to visit the Exhibition and attending the IAF GNFS Sessions |
| 18:15 - 19:30 | Plenary Event 2: Space 2030: Policies and Strategies in Global Space Economy Heydar Aliyev Center (HAC) - Auditorium |
| 19:30 - 22:30 | IAC 2023 Welcome Reception Heydar Aliyev Center (HAC) |

Tuesday 3 October 2023

| | |
|---------------|--|
| 08:00 - 08:45 | Industry Breakfast BCC Federation’s Terrace |
| 09:00 - 10:00 | Plenary Event 3: Infrastructures from LEO to Moon surface: The Commercial Side of Exploration Heydar Aliyev Center (HAC) - Auditorium |
| 10:00 - 12:30 | Free time to visit the Exhibition and attending the IAF GNFS Sessions and other portions of the IAC 2023 Programme |
| 12:30 - 13:30 | Industry VIP Luncheon BCC Federation’s Terrace |
| Time TBC | Private Guided tour of Baku Old City, with Tandir bread tasting and Tea Ceremony Transfer will be provided from the convention centre and back. |

2.3 IAC Hosts Summit – Tenth "Anniversary" Session

Date: Sunday 1 October 2023
Time: 10:30 - 13:00
Venue: Heydar Aliyev Center (HAC), HAC Hall C Baku, Azerbaijan

| Time: | Programme |
|------------|--|
| Opening | <p>Welcome Address by IAF President</p> <ul style="list-style-type: none"> • Clay MOWRY, President, International Astronautical Federation (IAF) <p>Opening Remarks by Master of Ceremony</p> <ul style="list-style-type: none"> • Pascale EHRENFREUND, IAF Past President (2019-2022), President of International Space University (ISU), President of Committee on Space Research (COSPAR) |
| 10:30 | |
| Keynote | <p>The challenges of developing a winning IAC Bid strategy</p> <p>Bidding for hosting an IAC is difficult and the heightened competition makes the whole process even more challenging. Is there really a win strategy? Here are the main critical success factors to improve and maximize your chances of standing out from the IAC Bid competition and who knows, win the great race to host the world’s premier global space event.</p> <ul style="list-style-type: none"> • Christian FEICHTINGER, Executive Director, International Astronautical Federation (IAF) |
| Debate | <p>A collective responsibility in theory and practice: ethical standards for selecting an IAC Host</p> <p>The International Astronautical Federation (IAF) is recognized as the most powerful, diverse and cohesive space advocacy organization worldwide. In the context of dynamic and increasingly complex geopolitical landscapes and broadened globalization discourses, can we consider the Call for Hosting an IAC as an equalizer for IAF Members? Let’s recall that space-related processes relevant to the UN’s broader human rights recognize the urgent need to “Pay equal attention to the realization of civil, cultural, economic, political, and social rights, including the right to development”. While major events such as the IAC create a platform for unification and cooperation across political and government boundaries, can we claim that everyone is ready to give space a chance? Can space play the role of a cultural catalyst for unifying nations? Join us for a great debate dealing with the intersection of the IAC Bid process and ethics in an open, critical, and interdisciplinary manner.</p> |
| Moderator: | <ul style="list-style-type: none"> • Adnan AL RAIS, Assistant DG - Space Operations and Exploration Sector, Mohammed Bin Rashid Space Centre (MBRSC) |
| Panellists | <ul style="list-style-type: none"> • Pascale EHRENFREUND, IAF Past President (2019-2022), President of International Space University (ISU), President of Committee on Space Research (COSPAR) • Steve EISENHART, Senior Vice President, Space Foundation / IAF VP for Global Networking Forum • Rena JAFAROVA, IAC 2023 Project Manager, Azercosmos Space Agency of the Republic of Azerbaijan • Agnieszka ŁUKASZCZYK, Vice President, EU Government Affairs, Planet / IAF Task Force Leader on Sustainability • Michael H. MOLONEY, CEO, American Institute of Physics (AIP) • Lionel SUCHET, Chief Operating Officer, Centre National d’Études Spatiales (CNES) / IAF VP for Technical Activities |
| | Coffee break |

Pitch Session + Q&A Everything you need to know about the IAC 2026 Bid proposals

Moderator: Jan KOLAR, Chair, IAF Congress and Symposium Advisory Committee (CSAC)

- **Antalya, TÜRKİYE:** by Turkish Space Agency (TUA)
- **Poznań, POLAND:** by European Space Foundation (ESF)

Panel discussion Space at the crossroads of Sustainability, Investment and Security

Sustainability, Investment and Security are the new driving forces behind the IAF's success. Current and upcoming endeavors such as the IAF President's SIS agenda for 2022-2025, the GLOC 2023 on "Fire and Ice: Space for Climate Action", the IAC 2024 on "Responsible Space for Sustainability", the GLOSS 2024 on "Operating Safely in Space: Challenges and Prospects" and the IAC 2025 on "Sustainable Space, Resilient Earth" will ensure these commitments will be rapidly translated into action.

Moderator: Steve EISENHART, Senior Vice President, Space Foundation / IAF VP for Global Networking Forum

- Panellists**
- **Clay MOWRY**, President, International Astronautical Federation (IAF)
 - **Carissa BRYCE CHRISTENSEN**, Founder and CEO, BryceTech / IAF Task Force Leader on Investment
 - **James BROWN**, CEO, Space Industry Association of Australia (SIAA), LOC IAC 2025 Sydney
 - **Agnieszka ŁUKASZCZYK**, Vice President, EU Government Affairs, Planet / IAF Task Force Leader on Sustainability
 - **Uri ORON**, Director General, Israel Space Agency (ISA), LOC GLOSS 2024
 - **Erasmus Carrera**, President, Associazione Italiana di Aeronautica e Astronautica (AIDAA)

Closing Closing Remarks by Master of Ceremony / Group Photo

13:00 - 14:00 IAC Hosts Summit Luncheon @HAC Hall A&B

2.4 UN/IAF 30th Workshop on Space Technology for Socio-Economic Benefits: "Challenges and Capacity-building Opportunities for Emerging Space Nations"

Date: 29 September - 1 October 2023

Time: 08:00 - 18:00

Venue: Baku Convention Centre, Heydar Aliyev Avenue, Baku

Organized by:



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) (<https://www.iafastro.org/>) are co-organizing the Workshop on Space Technology for Socio-Economic Benefits on the theme "Challenges and Capacity-building Opportunities for Emerging Space Nations".

The purpose of the Workshop is to bring together people who are conducting capacity-building activities, from either government, space agencies, research institutes, academia, non-governmental organizations, and those who are interested in building partnerships to accelerate capacity-building in developing nations about using space technologies and applications for sustainable economic, social and environmental development.

The Workshop will be hosted by Azercosmos (<https://azercosmos.az/en?lang=en>), held in Baku, Azerbaijan, from 29 September to 1 October 2023 in conjunction with the 74th International Astronautical Congress (IAC) (<https://www.iac2023.org/>), and it will be the 30th in its series.

WORKSHOP OBJECTIVES

The Workshop will provide a platform for discussion about how to increase capabilities in space technologies and space applications within developing countries, as well as to increase awareness of the benefits they offer. The main objectives of the Workshop are to:

1. Raise awareness of the various capacity-building efforts that are currently done in various countries and regions of the world, in particular efforts carried out through regional or international cooperation;
2. Share challenges and success stories of capacity-building efforts, to discuss what methods are the most effective and what synergies could be applied between initiatives of different stakeholders;
3. Bring together stakeholders from various governments, space agencies, academia, and industries to promote partnerships;



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 29 September 2023 | | |
|---------------------------------|---|---|
| 09:00 - 09:15 | 1. Opening Ceremony | |
| | Opening remarks by Aarti Holla-Maini | Director, UN Office for Outer Space Affairs (UNOOSA) |
| | Opening remarks by Clay Mowry | President, International Astronautical Federation (IAF) |
| | Opening remarks by Samaddin Asadov | Chairman, Space Agency of the Republic of Azerbaijan (Azercosmos) |
| 09:15 - 10:00 | 2. Setting the scene | |
| | Nathalie Ricard | Scientific Affairs Officer, United Nations Office for Outer Space Affairs (UNOOSA) |
| | Christian Feichtinger | Executive Director, International Astronautical Federation (IAF) |
| | Rena Jafarova | IAC2023 Project Manager, Space Agency of the Republic of Azerbaijan (Azercosmos) |
| | Masami Onoda | Chair, IAF Committee for Liaison with International Organisations and Developing Nations (CLIODN) |
| | Matias Campos | Vice-Chair, IAF Committee on Connecting Emerging Space ecoSystems (ACCESS) |
| 10:00 - 10:30 | Coffee Break | |
| 10:30 - 12:00 | 3. Panel "Needs of new space-faring nations or of non-space-faring nations to develop and obtain space-related knowledge and skills" | |
| | Moderator: Hazuki Mori, United Nations Office for Outer Space Affairs (UNOOSA) | |
| | Panelists: | |
| | Electdom Matandirotya | Zimbabwe National Geospatial and Space Agency (GINGSA) |
| | Behnam Sabouri | Iranian Space Agency (ISA), Iran |
| | Solomon Kwaku Appekey | Xavier Space Solutions, Ghana |
| | Asinta Ntida Manyele | Dar es Salaam Institute of Technology, United Republic of Tanzania |
| | Mensah Edoe Fernand | Institut National Polytechnique Houphouet Boigny, Côte d'Ivoire |
| | Matieu Henry | Food and Agriculture Organization |
| 12:00 - 12:30 | Networking | |
| 12:30 - 13:30 | Lunch break | |
| 13:30-14:30 | 4. Panel "Needs of new space-faring nations or of non-space-faring nations to develop an industry and space ecosystem" | |
| | Moderator: Nathalie Ricard, United Nations Office for Outer Space Affairs (UNOOSA) | |
| | Panelists: | |
| | Anna Ebehita Aikohi | Space in Africa, Nigeria |

| | Ariane Platell | QL Space, Australia |
|-----------------------------------|---|--|
| | George Steve Fajardo Soria | National Commission for Aerospace Research and Development (CONIDA), Peru |
| | Madin Maseeh | Maldives Space Research Organisation (MSRO) |
| | Michele Cristina Silva Melo | University of Brasilia, Brazil |
| | Shabnam Mammadova | Azerbaijan Service and Assessment Network |
| 14:30 - 15:15 | Coffee break | |
| 15:15 - 16:30 | 5. Session "University-level education in space engineering" | |
| | Chair: Vugar Bayramov, Azercosmos | |
| | Fostering space education in Azerbaijan through small satellite design program for undergraduate students | Nadir Atayev, Azercosmos |
| | The dual educational model at Mexican Space Agency (AEM): one year of challenges and lessons learned | Rigoberto Reyes Morales, Mexican Space Agency (AEM) |
| | Empowering the future: building a national educational space engineering program | Diana Aljbour, Jordan University of Science and Technology |
| | UNISEC-Global's capacity-building programs | Rei Kawashima, University Space Engineering Consortium-Global (UNISEC-Global), Japan |
| | Space engineering education programs in Kazakhstan | Abdikul Ashurov, L. N. Gumilyov Eurasian National University, Kazakhstan |
| | Developing an integral space education program, based on robotics and AI, to advance the Venezuelan education system | Rogelio Morales García, Bolivarian Agency for Space Activities (ABAE), Venezuela |
| 16:30 - 17:30 | 6. Panel "The United Nations Access to Space for All initiative" | |
| | Moderator: Hazuki Mori, United Nations Office for Outer Space Affairs (UNOOSA) | |
| | Panelists: | |
| | Merle Cornelius | Center of Applied Space Technology and Microgravity (ZARM), Germany |
| | Tetsuhito Fuse | European Space Agency |
| | Charles Maina Mwangi | Kenya Space Agency (KSA) |
| | Georgina Aurelia Chávez Lizárraga | Universidad Católica Boliviana "San Pablo", Bolivia |
| Day 2: Saturday 30 September 2023 | | |
| 09:00 - 09:15 | 7. Keynote by Anil Kumar, IAF Vice President for Relations with International Organizations | |
| 09:15 - 10:45 | 8. Session "University-level education about developing and using space applications" | |
| | Chair: Pieter van Beekhuizen, IAF Committee for Liaison with International Organisations and Developing Nations (CLIODN) | |
| | European Union Agency for the Space Programme space academy | TBD, European Union Agency for the Space Programme |
| | Capacity-building activities in OIC Region through ISNET fora | Sadaf Sajjad, Inter-Islamic Network on Space Science and Technology (ISNET) |

| | | |
|----------------------|--|--|
| | Capacity-building opportunities: space and geospatial education in Nepal | Krishna Prasad Bhandari, Tribhuvan University, Nepal |
| | Emerging capacity-building of a young Peruvian university: Universidad de Ciencias y Humanidades case study | Natalia Indira Vargas Cuentas, Universidad de Ciencias y Humanidades, Bolivia |
| | Indian Space Reach Organisation capacity-building academic activities for space technology and its applications | Rajasekhar Meka, Indian Space Research Organisation (ISRO) |
| | Capacity-building opportunities in university-level education for developing and using space applications | Gulara Huseynli, Azerbaijan State University of Economics |
| 10:45 - 11:15 | Coffee Break | |
| 11:15 - 12:30 | 9. Session "University-level education in space policy and law" | |
| | Chair: Nayoung Youn, Korea Aerospace Research Institute (KARI), Republic of Korea | |
| | IISL's capacity building activities for the global space law community | Kai-Uwe Schrogl, International Institute of Space Law |
| | The relaca-espacio network and the Latin American round of the Manfred Lachs space law moot court competition | Jairo Andres Becerra Ortiz, Universidad Católica de Colombia |
| | The first postgraduation course in space law & policy of Brazil | Ian Grosner, Brazilian Space Agency (AEB) |
| | Filling the gaps in space policy, strategy and law in Africa | Etim Okon Offiong, African Space Leadership Institute, Nigeria |
| | Developments in Space Policy and Law in the South Caucasus | Tatia Nikvashvili, Georgian National Competition Agency |
| 12:30 - 13:30 | Lunch Break | |
| 13:30 - 15:15 | 10. Session "Lessons learnt in building education opportunities" | |
| | Chair: Matias Campos, IAF Committee on Connecting Emerging Space ecoSystems (ACCESS) | |
| | Developing a framework for space education and capacity-building in Tunisia: lessons learned and best practices for other non-space-faring nations | Karem Saad, National School of Engineering Sfax, Tunisia |
| | Evaluating the effectiveness of space education programs | Mohamed Ibrahim, Egyptian Space Agency (EgSA) |
| | Insights gained from Nepal's space infrastructure development and satellite projects from the past three years | Anuja Shrestha, Antarikhya Pratisthan Nepal |
| | Hybrid online and hands-on training framework for space emerging nation: Thailand case study and follow up | Paripat Pairat, Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand |
| | Building knowledge and skills for space-faring nation - Poland's example | Aleksandra Maria Bukala, Polish Space Agency (POLSA) |
| | Space beyond sciences, technology, engineering, and mathematics - building a truly inclusive space industry | Remco Timmermans, International Space University |
| | International best practices in enabling capacity | Hannah Ashford, The Karman Project, Australia |
| 15:15 - 15:45 | Coffee Break | |
| 15:45 - 17:00 | 11. Panel "Lessons learnt in building a space ecosystem" | |

| | | |
|-------------------------------------|---|--|
| | Moderator: Nathalie Ricard, United Nations Office for Outer Space Affairs (UNOOSA) | |
| | Panelists: | |
| | Tidiane Ouattara | African Union Commission |
| | Michal Brichta | Slovak Space Office, Slovakia |
| | Pooja Lepcha | Government Technology Agency, Bhutan |
| | Nkentso Catherine Mamatee Ledimo | Impact School, Lesotho |
| | Nunzia Maria Paradiso | Italian Space Agency (ASI) |
| | Hamza Hameed | Space Generation Advisory Council |
| 17:00 - 18:00 | 12. Building partnerships | |
| 18:00 - 19:00 | Reception hosted by the International Astronautical Federation (IAF) | |
| Day 3: Sunday 1 October 2023 | | |
| 09:00 - 10:30 | 13. Session: "Education on space technology and applications at a level below university" | |
| | Chair: Wenbin Zhang, United Nations Office for Outer Space Affairs (UNOOSA) | |
| | The Zero Robotics program: training secondary school students to code robots on the International Space Station | Danielle Renee Wood, Massachusetts Institute of Technology, United States of America |
| | Developing a novel space camp model to inspire the next generation of space professionals | Maria Carolina Velasco Molina, Astralintu Space Technologies, Ecuador |
| | Stellar Lab: astronomy and space technologies educational platform sensitive to our Planet | Halil Bağış, Stellar Lab, Türkiye |
| | Education level on space technologies and applications at schools in Sri Lanka | Dulani Chamika Withanage, Kyushu Institute of Technology, Japan |
| | African girls/women in space robotics | Udi Philippa, National Space Research and Development Agency (NASRDA), Nigeria |
| | Building capacity: lessons learned in developing educational opportunities | Shelli Brunswick, Space Foundation, United States of America |
| 10:30 - 11:00 | Coffee Break | |
| 11:00 - 11:30 | 14. Wrap-up | |
| 11:30 - 11:45 | 15. Closing ceremony | |
| | Closing remarks by Samaddin Asadov | Chairman, Azercosmos |
| | Closing remarks by Anil Kuma | VP for International Relations, International Astronautical Federation (IAF) |
| | Closing remarks by Aarti Holla-Maini | Director, United Nations Office for Outer Space Affairs (UNOOSA) |
| 11:45 - 12:00 | Group photo | |
| 12:00 | END OF THE WORKSHOP | |

2.5 21st Space Generation Congress (SGC)

Date: 28 - 30 September 2023
Venue: Hyatt Regency Baku



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 21st edition of the Space Generation Congress (SGC) aims to celebrate the role of SGAC as a catalyst for the next generation of space professionals worldwide. With the theme "Building a space community to inspire, connect, and support humankind," we aim to highlight the role of space as an enabler for socio-economic development, inspiring new generations and connecting the world. Read more about the event theme page.

SGC 2023 Programme

The below schedule is a snapshot of what to expect at the SGC 2023. The schedule is in Baku local time (GMT+4). 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/sgc2023>

Wednesday 27 September 2023

19:30 - 23:00 Casual Opening Dinner

Wednesday 14 September 2022

08:00 - 08:30 Registration + Morning Coffee
 08:30 - 09:00 Welcoming Speech + Working Group Overviews
 09:00 - 09:30 Keynote Speech
 09:30 - 10:00 Keynote Speech
 10:00 - 12:30 Working Group Time
 12:30 - 14:00 Lunch Break
 14:00 - 15:45 Working Group Time
 15:45 - 16:30 Coffee Break + Interactive Activity
 16:30 - 17:30 Fireside Chat / Short Panel
 17:30 - 18:00 Keynote Speech
 18:00 - 18:30 Keynote Speech
 18:30 - 19:00 SGC Day 1 Closing Remarks + Awards Ceremony
 19:00 - 20:00 Travel to Venue for Evening Event

20:00 - 23:00 International Night

Friday 29 September 2023

08:15 - 08:45 Registration + Morning Coffee
 08:45 - 09:00 SGC Day 2 Welcome
 09:00 - 09:30 Keynote Speech
 09:30 - 10:00 Keynote Speech
 10:00 - 11:00 Career Development Panel / Special Track Session
 11:00 - 12:30 Working Group Time
 12:30 - 14:00 Lunch
 14:00 - 15:45 Working Group Time
 15:45 - 16:30 Coffee Break + Interactivity Activity
 16:30 - 17:30 Speed Mentoring
 17:30 - 18:30 Fireside Chat / Short Panel
 18:30 - 19:00 SGC Day 2 Closing Remarks + Photos
 19:00 - 20:00 Travel to Venue for Evening Event
 20:00 - 23:00 Space Night

Saturday 30 September 2023

08:15 - 08:45 Registration + Morning Coffee
 08:45 - 09:00 SGC Day 3 Welcome
 09:00 - 09:30 Keynote Speech
 09:30 - 10:00 Keynote Speech
 10:00 - 11:15 Space for Climate Panel
 11:15 - 12:30 Emerging Space Agencies Panel
 12:30 - 14:00 Lunch
 14:00 - 15:45 Working Group Time
 15:45 - 16:30 Coffee Break + Interactivity Activity
 16:30 - 18:00 Working Group Presentations
 18:00 - 18:30 SGC Day Closing Remarks + Closing Speech
 18:30 - 20:00 SGC Day 2 Closing Remarks + Photos
 19:00 - 20:00 Travel to Venue for Evening Event
 20:00 - 23:00 Closing Dinner

NASA ScaN Workshop

Sunday 1 October 2023

10:00 - 10:30 Welcoming + Morning Coffee
 10:30 - 11:00 NASA SCAN Intro + Workshop Description
 11:00 - 12:30 Workshop (Speakers + Activity Prep)
 12:30 - 14:00 Lunch
 14:00 - 15:45 Workshop (Activity)
 15:45 - 16:00 NASA SCAN Closing Remarks

3 Social Events

Welcome Reception

Date: Monday 2 October 2023
Time: 19:30 - 22:00
Location: Heydar Aliyev Center

Starts at 19:30 and will be held at the Heydar Aliyev Center ground floor. The programme includes speeches by Azercosmos and IAF, musical performances, cultural showcases by different performers, as well as appetizers and beverages service.

Sponsored by:



Gala Dinner

Date: Friday 6 October 2023
Time: 19:00 to 22:00
Location: Gulistan Palace
Cost:

The dinner starts at 19:00 and will be held at Gulistan Palace. The programme includes speeches by IAF, Azercosmos and the Gala Dinner sponsor (Northrop Grumman), promotional video presentations, national Azerbaijani musical performances, classical music performances, national dances, as well as contemporary music. At the dinner, a variety of delicious dishes pertaining to Azerbaijani cuisine will be served.

Sponsored by: **NORTHROP GRUMMAN**



4 IAF Awards 2023

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 2023 (for individuals)** is bestowed to:

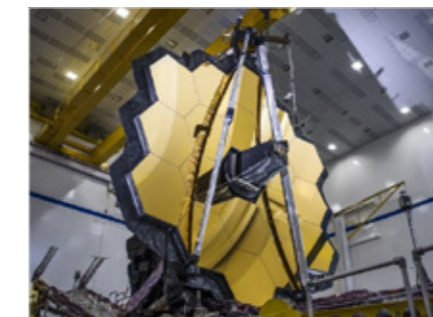


Elon MUSK
Founder, CEO, CTO
SpaceX



"Mr. Elon Reeve Musk has shown a visionary understanding of the role and importance of astronautics to humanity's future combined with a willingness to commit his own resources, life and drive and ability to make it happen through Space Exploration Technologies Corporation (SpaceX); a company that has matched the achievements of the Space Agencies in the fields of launch systems and human spaceflight, making space affordable and building space for @II."

The **IAF World Space Award for 2023 (for teams)** is bestowed to:



NASA, ESA, CSA James Webb Space Telescope Team



"This nomination of the NASA, ESA, CSA James Webb Space Telescope Team for the World Space Award Category B for Teams is based on the following exceptional merits:

- *Webb is the world's premier space science observatory that has already transformed our understanding of the universe in its first year of operation.*
- *Led by NASA, ESA and CSA, more than 20,000 team members from 14 countries have contributed to mission success.*
- *Scientific opportunities and data from Webb are available globally, with several papers being submitted daily for scientific peer review and publication.*
- *In addition to the science, Webb has demonstrated the benefits of international cooperation, practical applications from cutting edge technological development, and global inspiration from discovery."*

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 2023 is bestowed to:



Thomas ZURBUCHEN
Former Associate Administrator for Science
(retired),
National Aeronautics and Space Administration
(NASA),
United States



For almost a decade Dr. Zurbuchen not only led NASA's space science program, but also contributed to the consolidation of NASA's reputation as a reliable international partner by building internal and external alliances. He looked for opportunities to build partnerships across disciplines, with industry, and other space agencies to advance the frontiers of knowledge and exploration.

All these efforts led to the consolidation of the relationships with ESA, JAXA and other space agencies culminating in the cooperation of a set of missions on Mars. More recently, Dr. Zurbuchen also spearheaded a collaboration with ESA and JAXA to use their respective geospatial intelligence resources to collect data on the impacts of the COVID-19 pandemic.

Few leaders from NASA have had as profound an impact on international collaboration in space science and solar system exploration as Dr. Thomas Zurbuchen, who contributed greatly to the development of NASA's international relations.

Amongst many other additional initiatives, it is worth noting: his role in overseeing operations of the international partnership that successfully developed, assembled, tested, and launched the JWST telescope; his active participation in the Space Agency roundtable of space agency leaders; his advocacy for NASA's participation in international forums; and collaboration with emerging space agencies.

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.

The recipient of this year's award are:

Colegio Federado de Ingenieros y Arquitectos de Costa Rica (CFIA)



"Joining Central American young, women, and indigenous peoples in Space through first Central American space project"

The Colegio Federado de Ingenieros y Arquitectos de Costa Rica (CFIA) is the professional association responsible for controlling and

regulating professional practice in engineering and architecture in Costa Rica. This 120-year-old organization works in different areas of the profession, but inclusion, youth and gender are a horizontal front in its projects, not only for its Gender and Young Professionals Commissions specifically but for its Aerospace Commission too.

With more than 10 years in the aerospace field giving technical support in the development of projects in science and technology in aerospace topics in Costa Rica and the Central American region, the commission has played a key leading role in several capacity building projects, for example the first Central American satellite, Irazú. Much of the work is focused on training and capacity building. Educating young students and children in STEAM topics throughout the country is one of the main aims of the organization as well as the search for new professional opportunities and their linkage with the aerospace sector.

The organization annually holds "Technical Encounters" and webinars. These "encounters" are part of the initiatives undertaken in the field of gender and youth to promote the scientific and technological vocations of girls and adolescents. The objective of these activities is to promote the participation and recognition of women, girls, and adolescents in different fields of science and technology, evidencing the importance of investing in women's education for the socioeconomic development of the country.

In the aerospace field, recently CFIA has participated in promoting STEAM participation within different population groups in the country. For example:

- Plane modelling competition in Mexico
- "Mission Activation" brings stimulation talks to schoolgirls and boys in vulnerable areas
- Aerospace talks for young children to stimulate their interest in technical topics
- Student Support: Aerospace webinars and talks
- Support for groups of professionals and students
- Support to graduation thesis projects

Priority has been given to vulnerable areas of the country, mainly to young people and women, who normally have less chance of accessing technological careers in the country.

L'SPACE NASA Proposal Writing and Evaluation Experience (NPWEE) Project



"For recruiting and preparing a multigenerational and diverse space sector workforce while innovating over 100 new technologies"

The L'SPACE NASA Proposal Writing and Evaluation Experience (NPWEE) started in 2019 as an opportunity for high value engagement between next generation space entrepreneurs, NASA and the larger space sector. The project is a team-based 12-week virtual course that teaches the principles to identify aerospace technology needs and solutions, how to write selectable competitive proposals, and bring awareness of opportunities within the space sector. The course serves as a successful model for both outstanding and sustained contributions to foster "3G" Diversity within the space sector:

Geography: as of 2023, the NPWEE class has reached over 3,000 students from 563 US colleges and universities, including 189 small community colleges and 224 minority serving institutions, large cities, rural areas, and international students representing dozens of nations.

Gender: recognizing a traditional gender gap within the aerospace community, NPWEE has intentionally engaged and brought in female Science Technology Engineering and Math (STEM) students and introduced them to opportunities within the space sector. The NPWEE project has achieved 44% female participation.

Generation: three generations are engaged in the project; undergraduate students are matched with early career professionals and each team is also required to engage with senior space sector subject matter experts (SME).

In addition, NPWEE has again achieved sustained and unprecedented results of racial representation with thousands of students completing the course, the alumni are 27% Caucasian, 28% Asian and more than 40% Black, African American, Hispanic, Pacific Islander and Indigenous Americans.

Finally, economically diverse participation is granted by the gratuity of the NPWEE classes.

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 technologies to the global marketplace and are recognized throughout space industry for successfully executing landmark space missions.

The IAF Excellence in Industry Award for 2023 will be awarded to:

Northrop Grumman Corporation



Photo Credit: Northrop Grumman

Throughout the James Webb Space Telescope's (Webb) development, NASA and Northrop Grumman leveraged strong relationships with the European Space Agency, Canadian Space Agency, Association of Universities for Research in Astronomy (AURA), subcontractors, and ultimately with communities around the world to execute a near-flawless final integration and testing phase prior to launch. Thousands of engineers and hundreds of scientists worked to make Webb a reality, along with 300 universities, organizations, and companies from 29 U.S. states and 14 countries, including over 800 small businesses.

Webb's successful mission has enabled astrophysicists to take the deepest, sharpest infrared image of a distant galaxy, probe previously unseen regions of space, and detect carbon dioxide in an exoplanet's atmosphere, and these accomplishments are only the beginning. The Deployment of Webb was executed on the journey to its final orbit (a million miles from Earth), included 344 single-point failures, and required hundreds of components to perform flawlessly. The global team orchestrated the process seamlessly.

As the world's largest, most powerful, and technologically challenging space telescope, Webb is a major accomplishment in the field of astronautics. Webb features many cutting-edge innovations, and is a game changer for global astronomers, looking back in time over 13 billion years to the first stars and galaxies forming in the early universe.

The IAF Excellence in Industry Award - SMEs Category for 2023 will be awarded to:

Astroscale Holdings Inc.



Astroscale is the first private company with a vision for the safe and sustainable development of space for the benefit of future generations and is solely dedicated to on-orbit servicing across all orbits. The company is developing innovative and scalable solutions across the spectrum of on-orbit servicing, including life extension, in space situational awareness, end-of-life services, and active debris removal, to create sustainable space systems and mitigate the growing and hazardous buildup of debris in space.

On March 22, 2021, Astroscale successfully launched their ELSA-d mission. This was the world's first commercial mission to prove the core technologies necessary for space debris removal in low-Earth orbit (LEO), an unprecedented demonstration for a commercially funded mission in LEO. The demonstration proved key technologies such as capture via magnetic arm and docking plate, tracking of an object from a great distance, rendezvous with an uncontrolled object, and handover from absolute navigation to relative navigation for a LEO servicing spacecraft.

In addition, a key aspect of the success of the ELSA-d mission is the various partnerships it has with ground station providers and space situation awareness (SSA) service providers. These partnerships are crucial for managing the most complex maneuvers and ensuring critical mission safety operations and transparency.

The technologies validated through the ELSA-d mission mark the initial steps toward Astroscale's vision of achieving routine on-orbit servicing by 2030.

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 recipients of this year's award are:



UESUGI Kuninori
Professor Emeritus,
Japan Aero-Space Exploration Agency,
Director General,
Hokkaido Aerospace Science and Technology
Incubation Center (HASTIC),
Japan



Professor UESUGI is undoubtedly one of the world's most experienced specialists in space engineering and mission management, and his capabilities have been essential in ensuring the success of the Japanese and international planetary exploration programs. Thanks to his unique talents, Japan has been a pioneer in several areas of exploration and has attained a most justified world reputation in

this domain. Professor UESUGI's abilities embrace a vast domain, be it in the development of the "L" and "Mu" series rockets, or the extremely ambitious and cost-effective missions such as the "Sakigake" and "Suisei" missions to Halley's Comet, or the most impressive "Hayabusa" mission, which returned the best pictures ever of an asteroid and samples of its soil, making this mission another "premiere" in space science.

Professor UESUGI is also well known for his work on the swing-by technology applied to the "Hiten" lunar mission which accomplished 13 swing-bys of the Moon, an accomplishment which earned him the Nikkei BP Technology Award and the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) Minister Award for Research on Science and Technology. He has also received many international awards such as the NASA Group Achievement Award, the Frontier Award and the Werner von Braun Award from the National Space Society, USA, the Space Operations and Support Award from the AIAA and IAF's most prestigious award, the Allen D. Emil Award in 2012.

Besides his scientific and engineering contributions, he was very instrumental in international coordination on various occasions, such as the Inter Agency Consulting Group that was established to coordinate space science missions worldwide, leading to great success in cooperation between the U.S. and Japan on the "Geotail" project that has been providing unique observations of the tail of the Earth's magnetosphere and is still in operation 30 years after its launch.

His contribution to major international academic societies is remarkable. Professor UESUGI was a member of the Board of Trustees of the International Academy of Astronautics (IAA) from 2005 to 2011. He worked as Chairman of the Organizing and Programing Committee of IAA/ICLCPM (International Conference of Low-Cost Planetary Missions) and was an editor of Advances in the Astronautical Sciences several times.

He is still active as Director General of Hokkaido Aerospace Science and Technology Incubation Center (HASTIC), a nonprofit organization based in Hokkaido Island of Japan, with the aim of creating innovative industries and supporting start-ups in the aerospace business arena. He was a member of the Special Committee for Space Policy, Cabinet Office, Government of Japan from 2010 to 2021.

4.6 Frank J. Malina Astronautics Medal

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 astronautics and related space sciences.



Frank J. Malina
(1912 – 1981)

The Frank J. Malina Astronautical Medal for 2023 is bestowed to:



Klaus SCHILLING
President,
Zentrum für Telematik
Germany



"Professor Schilling has built up space research degrees. He enabled students to get hands-on experience in satellite construction and was involved in many leading space research activities like ESA projects and ERC grants."

Prof. Schilling has taken the fullest advantages of the resources available to him to promote the study of astronautics and related space sciences.

During his entire career he was engaged in visionary aerospace guidance and control problems (in interplanetary missions like Cassini/Huygens or Rosetta, but also for small satellites and satellite formations). He significantly contributed to advance the scientific state-of-the-art. This resulted in an outstanding international career.

By his enthusiasm for space, he was able to motivate students to exceptional achievements (like in UWE-1 or NetSat), which led to outstanding professional careers in aerospace industry and in academia. Particularly his very practical approach to engage students

into exciting space research projects with tangible results and actual space satellite launches let him stand out in his field. During his career he has also made great commitments to the international space community within the framework of the IAF as proven by his long-term engagement in different forums and the awarding of the IAF "Distinguished Service Award".

4.7 IAF Interactive Presentations Competition Award

To be announced on Thursday 5 October during the IP Award Ceremony at 13:30 in the room BCC A6. The five best Interactive Presentations of the IAC 2023 will be awarded during a dedicated ceremony to be held just before the Interactive Presentation Session. A dedicated jury has chosen one winner for each of the five categories:



- 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!

5 International Astronauts Chapter

Date: Friday 6 October 2023
Location: Heydar Aliyev Center (HAC) Auditorium

The **International Astronautical Federation (IAF)** together with its partners - the Association of Space Explorers (ASE) and the IAC 2023 Host - Azercosmos, are co-organizing the **IAC 2023 International Astronauts Chapter**, inviting astronauts and cosmonauts from around the world to participate in the 74th International Astronautical Congress that will take place in **Baku, Azerbaijan from 2 – 6 October 2023**.

As part of this special programme, IAC 2023 will offer a broad spectrum of opportunities during which all astronauts and cosmonauts will give their tribute to the congress theme “Give Space a Chance” and will showcase diversity of role models and experiences especially in the context of global cooperation and outreach activities. On **Friday 6 October**, there will be a dedicated Astronauts IAF **Global Networking Forum (IAF GNF)** featuring an international panel of astronauts and cosmonauts, sharing their perspectives and updates on human activities in space.

Do not miss the **autograph session with astronauts** on **Friday 6 October** which is also the **Public Day!** Astronauts and cosmonauts will be signing a dedicated **IAF Photo Album** to be collected at the IAF booth (a limited number of copies will be available and on a **first-come, first-served basis**).



Hazzaa ALMANSOORI
 Astronaut,
 Mohammed Bin Rashid
 Space Centre (MBRSC),
 United Arab Emirates



Tony ANTONELLI
 Astronaut, Acting Director,
 Advanced Programs Civil
 Space,
 United States



Ali AL-QARNI
 Astronaut,
 Saudi Space Agency (SSA),
 Saudi Space Commission
 (SSC),
 Saudi Arabia



Tuva Cihangir ATASEVER
 Astronaut,
 Turkish Space Agency (TUA),
 Türkiye



John-David BARTOE
 Astronaut,
 National Aeronautics and
 Space Administration (NASA),
 Officer,
 Association of Space Explorers
 (ASE),
 United States



Jay BUCKEY JR.
 Astronaut, Professor of
 Medicine,
 Dartmouth Medical School,
 United States



Reinhold EWALD
 Astronaut and Professor of
 Aeronautics,
 University of Stuttgart,
 Germany



Ronald J. GARAN
 Astronaut,
 National Aeronautics and
 Space Administration (NASA),
 United States



Alper GEZERAVCI
 Astronaut,
 Turkish Space Agency (TUA),
 Türkiye



Victor HESPANHA
 Astronaut,
 Blue Origin,
 Brazil



Anna Yuryevna KIKINA
 Astronaut,
 ROSCOSMOS,
 Russia



Dumitru-Dorin PRUNARIU
 Astronaut and Expert,
 Romanian Association for
 Space Technology and Industry,
 Member, Board of the
 Romanian Space Agency,
 ROMSPACE,
 Romania



Julie PAYETTE
 Astronaut and Former
 Governor General of Canada,
 Canada



Mark POLANSKY
 Astronaut,
 National Aeronautics and
 Space Administration (NASA),
 United States



Rusty SCHWEICKART
 Astronaut,
 National Aeronautics and
 Space Administration (NASA),
 United States



Dylan TAYLOR
 Chairman and CEO,
 Voyager Space Holdings,
 United States



Franz VIEHBÖCK
 Astronaut and CEO,
 Berndorf AG,
 Austria



Koichi WAKATA
 Astronaut,
 Japan Aerospace Exploration
 Agency (JAXA),
 Japan



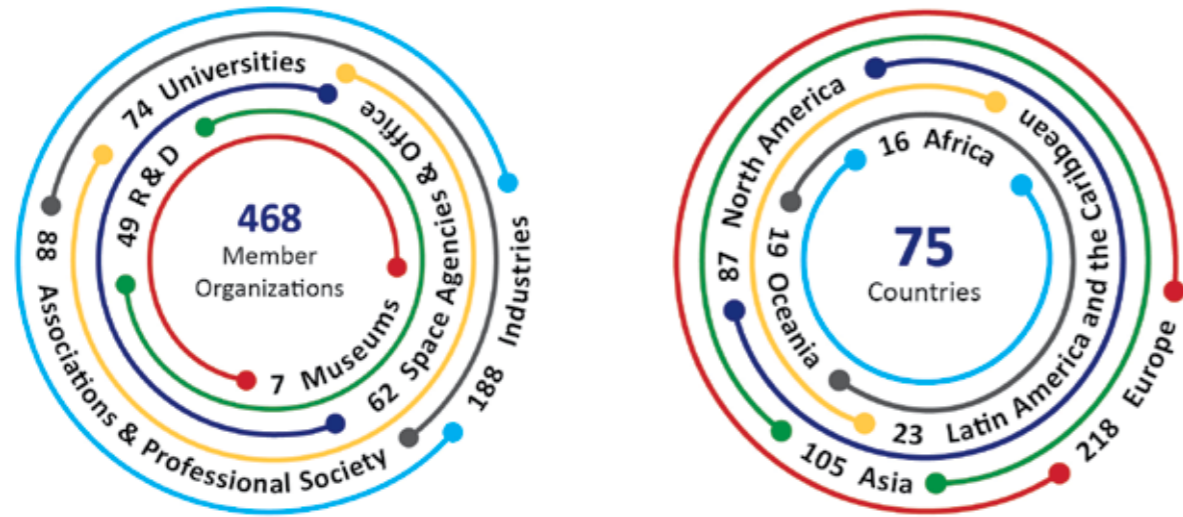
Peggy WHITSON
 Astronaut,
 Director of Human Space
 Flight,
 Axiom Space, LLC,
 United States

Astronauts visit program



| October 2 | October 3 | October 4 | October 5 | October 6 |
|---|---|--|---|---|
| IAC 2023 Opening Ceremony 09:00 - 11:00 HAC Auditorium | Meet Astronauts Media Briefing 08:00 - 09:00 ACTV "Tele Satler" program | Meet Astronauts Media Briefing 08:00 - 09:00 Azerbaijan Public Television "Telebörən vəqə Azərbaycan" | Meet Astronauts Students Briefing 10:00 - 12:00 Baku State University | Autograph Ceremony 09:00 - 16:00 H. Aliyev Center (Public Zone) |
| IAC 2023 Opening Exhibition 11:15 - 12:15 | Meet Astronauts Students Briefing 10:00 - 12:00 National Aviation Academy | Meet Astronauts Students Briefing 10:00 - 12:00 ADU University | Meet Astronauts in Space Week 14:00 - 16:00 State Children and Youth Centre | IAF Global Networking Forum Session with Astronauts "Providing Space - meet the Space people" 10:15 - 11:15 HAC Auditorium, Heydar Aliyev Center |
| IAC 2023 Sponsored Luncheon 12:30 - 13:30 | Space and STEM for schoolchildren 14:00 - 16:00 National STEM Center | Meet Astronauts in Space Week 14:00 - 16:00 Baku European Luncheon | IAF Press Conference with Astronauts 13:45 - 14:30 BCC Baku Convention Centre | |
| Heads of Agencies 13:45 - 15:15 | Space and Health 16:00 - 18:00 Azerbaijan State Medical University | Astronauts Roundtable - Technical Session E3.3 "Astronauts Training, Accommodation, and Operations in Space" 15:00 - 17:30 Baku Convention Centre room BCC AT | Space and Health 16:00 - 18:00 Azerbaijan State Academy of Physical Education and Sports | |
| Space and Inclusivity 17:00 - 18:00 DOSEI Center for Disability and Inclusivity State Paralympics Committee | | | | |

Join the IAF, the world leading space advocacy body!



Become an IAF Member

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1 ↓

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2 ✎

Complete the Application Form and attach the **requested documents**.

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4 🔍

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

5 ✓

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6 👥

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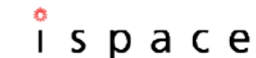
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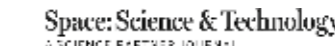
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