



## IAC 2023 Special Sessions



### **Artemis “Audience Astronauts” Prepare for Mars – Format: Simulated Crew Briefing**

Will you be selected for a Mars analog mission at the Moon? A raffle will determine audience members to participate in a simulated astronaut briefing. In the 2030s, they will be Artemis astronauts assigned a months-long mission to the Moon that will act as the first integrated partial Mars analog. Experts will walk you through your mission, then the audience will investigate the mission concept through probing questions. Are you up for the challenge?

### **A Bridge from the Lab to Orbit: Supporting new global space researchers – Format: Workshop**

Join us for a guided workshop as we seek to define the ideal user journey(s) for those sending experiments up to a future commercial space station. This session will seek to uncover current barriers for research and development on the ISS, brainstorm ways to overcome the identified barriers, identify opportunities for new capabilities, and publish a report on key findings.

### **“Be it resolved, non-legally binding instruments like the Artemis Accords will lead to the harmonization of the law of outer space ...” – Format: Debate**

This multidisciplinary session brings together high-level speakers from the fields of space law and policy, politics and diplomacy, to engage in a fun and interactive debate on the impact of non-legally binding instruments on the development of the law on outer space. Non-legally binding instruments like the Artemis Accords have gained relevance following the rapid and successful contributions of emergent State and non-State actors, proliferation of space technologies, and a strained multilateral order.

### **Space for emerging ecosystems – emerging ecosystems for space – Format: Campfire**

Every country has something to offer to the global space community and can contribute to its endeavors. The Space for emerging ecosystems – emerging ecosystems for space will gather experience from all over the world on how to build a new space ecosystem, scale it up, and make it a valuable part of the global space community.

### **Innovative technology infusion approaches for future deep space exploration missions – Format: Campfire**

Join us for a keynote, panel, and audience interactive discussion on the opportunities and challenges of infusing new technology into deep space science missions. This session will allow scientists, technologists, project and program managers to share their stories, and work with you, to formulate a pathway together toward achieving more ambitious science return through the adoption of mission-enabling advances in space technology.

### **Outrunning Wildfire – the Growing Role of Space Observations – Format: Fishbowl**

Wildfire threats and impacts are increasing dramatically and rapidly due to climate change and human development. This has greatly increased the political priority to address these threats. Space Based observations play a unique and essential role in mitigating the risks and impacts before, during and after wildfires. Engage with Agency leaders for Earth Observations to develop an integrated view of this much needed application of the unique capabilities of space-based observations and products.



### **Space Infrastructure Games 2 - Standardization and Modularity – Format: Interactive Games and Reflection**

Join us to compete in interactive physical games (with prizes) to explore the positive and negative impacts of Standardization and Modularity for the creation of a sustainable and profitable Space Economy. Take advantage of this unique opportunity to engage with colleagues, local participants, young professionals, and space leaders/experts on how these ideas are impacting current projects and discuss how they can be implemented to accelerate humanity's expansion into space.

### **Shaping future human space exploration through underwater operations – Format: Immersive and open fishbowl**

As part of our preparation for our return to the Moon, join us from the oceans depths to outer space to figure out how the underwater environment plays a key role in future human space exploration. Along with astronauts, divers and fierce explorers, we invite you to immerse yourself into underwater EVA suit testing and astronaut training in a one-of-its kind session.

### **Analysis of the due diligence and good faith in commercial outer space activities – Format: Campfire**

This special session shall discuss jurisdiction, due diligence and good faith related disputes and specific cases concerning commercial outer space activities. Due diligence evolved as an element of states' international obligations in international practice, and considerations on due diligence overlapped with broader discussions on the role of fault in international responsibility. As the number of private outer space activities have been increasing, young professionals should get acquainted with new challenges of commercial outer space activities.

### **Intelligent Space Sustainability: How AI can help shape sustainability in Space? – Format: Workshop**

Space technology and exploration are playing an increasingly vital role in shaping Humanity's future. How can we ensure bold space endeavours are done sustainably over the next decade and beyond? As AI matures in capabilities, what will be the role of autonomy and ML in enabling sustainable space exploration and exploitation? We will explore key ideas in space traffic management, planetary protection as well as emerging technologies for spacecraft end-of-life, green fuels and closed-loop systems.

### **ESA Moonlight Initiative: lunar communication and navigation services and technologies – Format: Campfire**

More than 250 missions are expected to launch to the Moon over the next decade alone, contributing to the creation of a multi-billion lunar economy. ESA's Moonlight initiative seeks to create a shared telecommunication and navigation service for these missions by encouraging European and Canadian space companies to put a constellation of satellites around the Moon. This special session is dedicated to the current state of the Moonlight initiative, future developments, and complementing technologies.

### **Would You Look Up? The Fiction and Reality of Planetary Defense. – Format: Workshop**

Remember the movie "Don't Look Up"? Want to know what is fact and what is fiction in case of a possible future scenario where an asteroid or comet impacts the Earth? Join the "Would You Look Up?" workshop led by world experts in the field of planetary defense. Using the movie as an example, we'll discuss different areas: technology, science, legal/policy, philosophy/ethics, and media/communications - and you can contribute!

### **Metaverse Technology (VR/AR/XR) for Space Capacity Building – Format: Metaverse Technology (VR/AR/XR) for Space Capacity Building – Format: Metaverse interactive session**

Join us at the "Metaverse for Space Capacity Building" special session. Experience the power of immersive and interactive capacity building through the metaverse for space-related topics. Be a part of the cutting-edge technology revolutionizing the way space capacity building is conducted. Meet and network with experts from around the world and collaborate on future projects. Don't miss this opportunity to learn and be a part of shaping the future of the space industry! Register now!



## **Community engagement workshop on the standardization of Earth observation analysis ready data**

### **– Format: Workshop**

Analysis ready data (ARD) is satellite data that have been processed to a minimum set of requirements and organized into a form that allows immediate analysis with a minimum of additional user effort and interoperability both through time and with other datasets. ARD standardization will impact all of you. Please come to the workshop to learn the current status of ARD standardization, voice your opinions, and engage in defining ISO and OGC ARD standards.

## **Reimagining the spacecraft design process: Agile Development for Reusable Space Systems –**

### **Format: Mock Design Challenge & Discussion**

Join us to discuss innovative concepts for the development of reusable space systems using agile processes! In this session, we will hold a mock design competition where participants will be separated into teams and tasked with reviewing a design process for a proposed reusable lunar lander. This workshop welcomes participants from all disciplines to develop novel concepts to frame a White Paper on this topic to inform future research directions and spacecraft development programs.

## **International Treaty for Moon Farside Protection – Format: Workshop**

The Moon Farside is the only place free from radio transmissions and noises produced by ground-based and Earth-orbiting instruments. The spherical body of the Moon blocks them, acting like a shield. Thus, the legal Protection of the Moon Farside from all kinds of non-scientific future exploitations (potentially polluting the Farside) is a concern for scientists. We advocate Moon Farside Protection in four different areas of science: Cosmology, Astrobiology, SETI and Planetary Defense.

## **Give Space a Chance for Climate Action: A Multidisciplinary Workshop for Monitoring, Adaptation, and Mitigation – Format: Workshop**

Building on the momentum created at the Global Conference on Climate Change (GLOC) in May 2023, this workshop invites the global space community to add their voice to the ongoing call for climate action utilizing space-based approaches. This engaging and interactive session fosters a vigorous discussion of climate mitigation actions and sets the foundation for future technology development, policy initiatives, and action on climate change mitigation.

## **Disruptive ISRU: Sustainability and Regolith Utilization – Format: Campfire**

Regolith represents the largest and most accessible solid resource on the lunar and Mars surface. The sustainable use of this resource is enabling new technological advances that will shape space exploration for years to come. This special session brings together an interdisciplinary panel in a campfire format to discuss the novel usage of regolith and the potential sustainability implication for long-term space missions.