

Photo: Lunar South Pole, NASA PIA13523.

New Additions to the OSI Team



The Outer Space Institute (OSI) team continues to grow with several new researchers and students.

In July 2024, Jo Armstrong joined the team as a Research Technician and Junior Fellow. Jo began researching space debris clean-up via semi-controlled reentries in the final year of her undergraduate degree—a BSc in Astronomy from the University of British Columbia. She now works with the OSI full-time, studying debris deorbital timelines and alternatives to uncontrolled reentries.

Mackenzie Pereira holds a BSc in Physics from McGill University and has research experience in a diverse range of physics sub-fields. Currently, as a summer Research Technician for the OSI, she has been investigating Proliferated Low Earth Orbit (pLEO) constellation configurations and their space security implications. She will begin her MSc in Interdisciplinary Studies at UBC in September 2025 with a focus on space sustainability.





Josh Bradbury will begin his MA in Political Science at UBC in September 2025, having recently graduating from the University of Warwick with a BA (Hons) in Politics and International Studies. Josh spent the summer of 2024 interning with Ofcom, the British telecommunications regulating body, which also oversees satellite regulation.



Kiely Paris-Rodriguez holds an MSc in Global Governance and Diplomacy from the University of Oxford as well as a BA in Political Science and Space Psychology. Her research has focused on the influence of non-state actors in outer space politics and governance. Kiely will begin a PhD in Political Science at UBC in September 2025.

OSI Junior Fellows Graduate Degrees



Dr. Haley Rice successfully defended her PhD Thesis "[Strategic Use of Law in Outer Space](#)" in December 2024 at the University of St. Andrews School of International Relations under the supervision of Dr. Adam Bower.

Charlotte Hook completed her MA degree in Political Science under the supervision of Michael Byers. Her thesis is titled "[Cosmic Oversight : examining the US Federal Communications Commission's regulation of the environmental impacts of satellite mega-constellations](#)".



Dr. Giuliana Rotola recently completed her PhD in Sustainable Development and Climate Change with a thesis entitled "Postcolonial Approaches to Space Governance: a Normative, Theoretical, and Institutional Analysis of Space Law."



Scientific Reports



Airspace Closures due to Reentering Space Objects published in Nature Scientific Reports

Ewan Wright, Aaron Boley, and Michael Byers published "[Airspace Closures Due to Reentering Space Objects](#)" in Nature Scientific Reports. The article examines the challenges uncontrolled reentries pose to airspace authorities around the world by determining the probability for reentry within regions of different air traffic densities. It builds on their previous study presented at the 2nd International Orbital Debris Conference in Houston. This paper received a great deal of media attention, including mentions in [The Independent](#), [CBC](#), [CBS News](#), and many more!

OSI and the UN Committee on the Peaceful Uses of Outer Space



Now that the OSI has received Permanent Observer Status at the UN Committee on the Peaceful Uses of Outer Space (COPUOS), several Fellows and Junior Fellows were able to attend and speak at the annual meetings of the Scientific and Technical Subcommittee (STSC) and Legal Subcommittee (LSC) in Vienna, Austria.



The UN Web TV recordings of the statements can be found below. [Ewan's statement](#) begins at 45:30. [Aaron's statements](#) are at 35:55 (agenda item 3) and 1:26:15 (agenda item 15).

In February 2025, **Ewan Wright** and **Aaron Boley** attended the 62nd meeting of the STSC in Vienna, Austria. Ewan read a statement on February 7th under agenda item 10 on the long-term sustainability of outer space activities, advocating for widely inclusive science projects on the Moon.

On February 11th, Aaron addressed the assembly twice. First, in a general exchange of views, he introduced the OSI and our recent activities. Then, in a session on dark and quiet skies, he spoke on the relationship of environmental issues in the “Earth-Space System” to dark and quiet skies, arguing that for the long-term sustainability of outer space activities, Earth and Space cannot be treated as separate domains. Both of these statements, and Ewan’s statement can be found on the OSI website.

In May 2025, **Charlotte Hook** and **Robin J. Frank** attended the 64th meeting of the LSC. Charlotte made a statement on the importance of coordination among actors conducting activities on the lunar surface, and of looking to other environments beyond national jurisdiction for lessons. The statement suggested that the concept of safety zones, advanced by the United States (US) in the 2020 Artemis Accords, could be differentiated or supplemented. It proposed a new tool, “Notices to Lunar Missions”, modelled on the Notices to Air Missions used by air traffic control. Both the statement and a supplementary paper can be found on the OSI website.



The UN Web TV recording of the statement [can be found here](#). Charlotte begins at 1:21:00



The UN Web TV recording of the statement [can be found here](#). Beatriz begins at 2:01:50

In late June and early July 2025, **Beatriz Paiva Soeiro** and **Michael Byers** attended the plenary session of COPUOS on behalf of the OSI. Beatriz read the OSI’s statement under the Space2030 agenda item, urging states to take a broad interpretation of the relevant treaty provisions on the duty to assist persons in distress in outer space and affirm that this duty applies everywhere in space and to all human beings. This statement is also available on the OSI website.

3rd Annual John S. Macdonald Outer Space Lecture

The OSI and MDA Space proudly hosted the 3rd Annual John S. MacDonald Outer Space Lecture on January 22nd 2025 at the Frederick Wood Theatre, UBC. The distinguished speakers were Canadian Astronaut and former Minister of Foreign Affairs **Marc Garneau**, and Romanian Cosmonaut and former Chairman of the UN COPUOS **Dumitru Dorin Prunariu**. The event was moderated by OSI Junior Fellow **Charlotte Hook**. Essential support for the lecture was provided by MDA Space.

You can watch the full lecture on the [Outer Space Institute Society's YouTube channel](#).



Nuclear-Space Nexus Workshop

On October 4th and 5th 2024 Vivienne Zhang and Roohi Dalal chaired an OSI workshop on “Safety and Security at the Nuclear-Outer Space Nexus” at UBC. The workshop focused on identifying potential risks stemming from a growing number of nuclear applications in space, convening experts from the nuclear and space communities. Discussions ranged from the alleged Russian nuclear anti-satellite weapon to the proliferation risks of nuclear power sources developed for space. The workshop was funded by an arms-length grant from the Canadian Department of National Defence, under its MINDS (Mobilizing Insights in Defence and Security) Program.

Lunar Coordination Workshop (Vancouver)

Immediately following with the John S. Macdonald lecture, the OSI hosted a workshop on lunar coordination at UBC on January 23rd and 24th 2025. Participants discussed the physical and legal challenges of proposed lunar activities, and brainstormed possible solutions which feed into COPUOS and the Action Team on Lunar Activities Consultation (ATLAC).

Lunar Coordination Workshop (Singapore)

The OSI hosted a second lunar coordination workshop in Singapore on February 18th and 19th 2025, bringing together the OSI and transdisciplinary space experts from the Indo-Pacific region. The workshop built on previous OSI ideas and discussions, including those from the Vancouver workshop, and brought into clear focus the need for the OSI to make a statement on lunar coordination and “Notices to Lunar Missions” at COPUOS LSC. The workshop was made possible by a grant from the Asia Pacific Foundation of Canada.

OSI EDI Committee

This year, the OSI is proud to have established its Equity, Diversity and Inclusion (EDI) Committee. The OSI is committed to the principles of equity, diversion and inclusion and is dedicate to fostering and achieving these principles in its work. It is chaired by **David Kendall**, with other committee members **Robin J. Frank**, **Charlotte Hook**, and **Beatriz Paiva Soiero**, all of whom will serve out 3-year terms.

The EDI Committee has released its [Terms of Reference](#) and a [letter introducing the itself](#) to the OSI Community. It will soon have a designated page on the OSI website. The EDI Committee welcomes participation from OSI community members who are passionate about this work. If you're interested in joining the committee or would like to suggest a topic for consideration, please reach out to Beatriz or David.

Visitors to the OSI

The OSI was fortunate to host a number of guests in Vancouver over the past year.

From September–October 2024, **Olavo de Oliveira Bittencourt Neto** visited UBC. Olavo is a professor of International Law and Space Law at the Catholic University of Santos, Brazil and shared his work with the Vancouver team, inspiring many compelling conversations about our overlapping interests in the space domain.

Olavo has also joined the OSI as our newest Fellow; welcome, Olavo!

Following the October 2024 Nuclear–Space Nexus workshop (described above), **Nivedita Raju** from the Stockholm International Peace Research Institute (SIPRI) spent a few days with the OSI, and led a seminar on her work. As a Senior Researcher in the SIPRI Weapons of Mass Destruction programme, she focuses on space security, space governance, and transparency. SIPRI's research generally focuses on conflict, armaments, arms control and disarmament, and Nivedita is instrumental in the effort to examine these topics as they pertain to space.

Chris Johnson from the Secure World Foundation (SWF) visited UBC from late October to early December 2024, working on his PhD thesis on an international legal order for the Moon. Chris is the Senior Director, Legal Affairs and Space Law at SWF, which promotes cooperative solutions for space sustainability.

In February 2025, OSI Fellow **Moriba Jah** paid a visit. Moriba is a professor of Aerospace Engineering and Engineering Mechanics at the University of Texas at Austin, and a strong advocate for sustainability in the Earth–Space Environment. On February 4th, 2025, he gave a talk as part of UBC's Climate Emergency Week entitled "Saving Gaia: Earth–Space Environmentalism", in which he introduced the topic of sustainability in space to a broad audience of UBC staff and students. He also met with a group of OSI team members to discuss the applications of AI in space environmentalism.



Fellows Activity



Sam Lawler continues to speak out about space debris reentries, particularly those in Canada. After being consulted by several news outlets for statements, including [Global News](#) and [CBC](#), Sam wrote a powerful article for [Scientific American](#), describing an incident last May 2024 in which a large piece of SpaceX debris fell on a farm in Saskatchewan. The article highlights the many-faceted problems with infalling space debris, including the troubling size of the debris, and SpaceX's quiet clean up, which circumvented the proper procedure of communication with the Canadian government. Another article on the subject, written by **Sam Lawler** and **Aaron Boley** and published in [The Conversation](#), explored in greater depth the multiple instances in which debris from commercial spaceflights were expected to burn up upon reentry, but failed to do so.

OSI Fellows have continued to collaborate internationally, travelling to share their work or further their research. From September – December 2024, **Adam Bower** was a residential Fellow at the Academy of International Affairs NRW in Bonn Germany, as part of a research group on the “Geopolitics of Outer Space.”

Ewan Wright will be spending Fall of 2025 at St Andrews University, working with OSI Fellow **Adam Bower** to investigate measures to improve outer space treaties and international governance in light of the rapid growth of technology and activities in outer space. The project is funded by a Social Sciences and Humanities Research Council of Canada (SSHRC) Knowledge Synthesis Grant.



David Kendall is the former Chair of the UN COPUOS and Faculty Emeritus at International Space University. He is also the new Chair of the OSI EDI committee

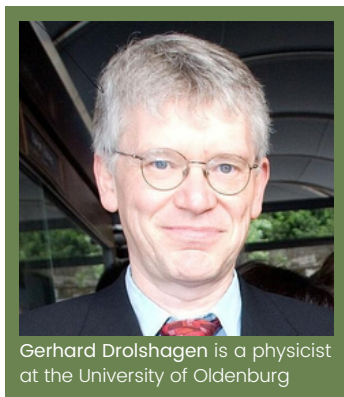
David Kendall gave the keynote presentation at the Canadian Aeronautics and Space Institute’s ASTRO2024 conference on Sustainability of Space: Current and Future Implications for Canada. He also spoke on a panel at the UN General Assembly (UNGA79) Science Summit 2025 entitled Global Cooperation and Space Sustainability; Panel on New Ways Forward to Global Cooperation to Protect Earth from Collisions In and From Space.

Olavo de O. Bittencourt Neto was reelected to the board of directors of the International Institute of Space Law for a new 3-year mandate. He was also recipient of the Honor of Merits in Space Medal from the Brazilian Space Agency, and nominated by Brazil as arbitrator for space-related disputes at the Permanent Court of Arbitration.

Jim Green’s stunning new book [MARS: Photographs from the NASA Archive](#) was published in February 2025 and almost immediately sold out from the publisher. Now available in a second printing, it was also ranked 14th on JP Morgan’s annual Summer Reading List.

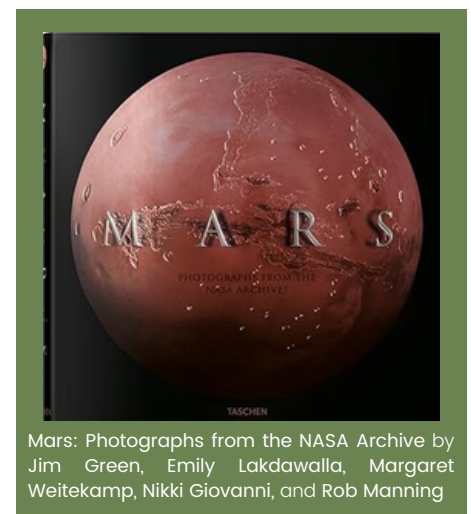
Giuliana Rotola spoke on the Center for Air and Space Law’s Cosmic Counsel Podcast “[The Moon, Indigenous Cultures, and Space Sustainability](#)”, discussing how principles of environmental sustainability on Earth and indigenous conceptions of nature and the moon can guide current and future space exploration.

Alice Gorman was featured on the Doha Debate Podcast “[Should We Mine Space?](#)” and argued that greater government oversight is necessary before commercial space mining can take place.



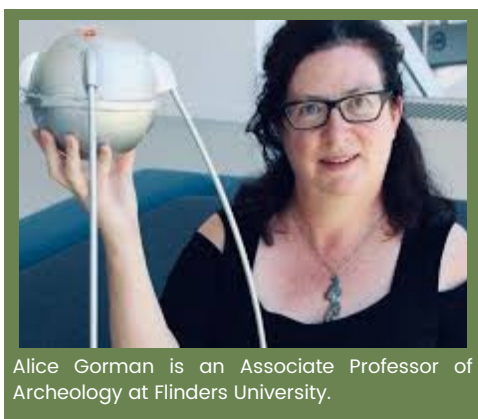
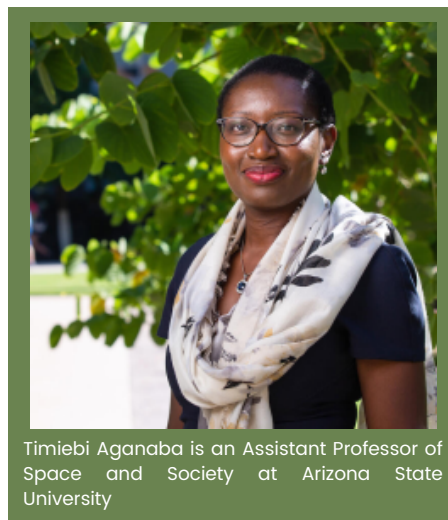
Gerhard Drolshagen is a physicist at the University of Oldenburg

The [9th International Academy of Astronautics \(IAA\) Planetary Defense Conference](#) was held May 2025 in Stellenbosch, South Africa, co-chaired by OSI Fellow **Gerhard Drolshagen**. A hypothetical impact scenario was presented, in which a 150-metre asteroid was on track to strike a location near the boundary of the Democratic Republic of the Congo and Angola. Two decision making panels had a lively discussion on potential mitigation measures. All abstracts, presentations, and the web streaming of the whole conference will be archived and made available via [the IAA website](#).



There have also been an abundance of important publications in the past year. Here are just a few examples:

- [“Why space exploration must not be left to a few powerful nations”](#) by Timiebi Aganaba et al. published in Nature. This paper draws attention to Indigenous nations and communities and low- and middle-income countries whose perspectives are often ignored in the capitalist and colonialist setting of the space industry.
- [“Act now to prevent a ‘gold rush’ in outer space”](#) by Timiebi Aganaba published in Nature is a review of the book *Who Owns the Moon? In Defence of Humanity’s Common Interests in Space* by A. C. Grayling (Oneworld Publications), and highlights the need for a reevaluation of the legal compact around uses of space, particularly in regards to non-state actors planning lunar activities.
- [“Trump’s Space Cuts Should be a Wake Up Call for Canada”](#) by Tanya Harrison is an op-ed published on SpaceQ. It discusses Canada’s role in space given the close ties to the US space program in the past, and how the Canadian space industry could be grown to prioritize Canadians.



- [“Space Needs Lawyers”](#), a publication released by the Center for Air and Space Law, contains a reflection by Giuliana Rotola regarding the Outer Space Treaty and the ecological and ethical considerations it lacks (pp. 60-62).
- Alice Gorman authored a chapter in *Mythologies of Outer Space* (eds. Jim Ellis and Noreen Humble) entitled [“How we let the Moon die, and why it isn’t dead” critiquing the common perspective of the Moon as a “dead world”](#) (pp. 1-15). She also has a chapter included in *Cosmic Fragments: Dislocation and Discontent in the Global Space Age* (ed. Asif Siddiqi) entitled [“We are strangers here now: Interplanetary landscapes and cadastral colonialism”](#) (pp. 87-99)

In the past year, OSI Fellows and Junior Fellows have had more successes than we could include in a single edition of this newsletter, and it has been a pleasure to receive and read about everything you’ve sent in. The invitation to share your achievements is open and ongoing. When you next have an exciting publication or public appearance that you’d like to highlight, please don’t hesitate to forward it to Jo at jo.armstrong@ubc.ca. We will then share it with the broader OSI community through the Publications and Press page of the OSI website.

The OSI is also always open to ideas for new research and policy-oriented projects, as well as constructive criticism and feedback. For the OSI to remain at the cutting edge, we need your help! Please reach out to coord@outerspaceinstitute.ca if you are an OSI Fellow or Junior Fellow and have suggestions you would like to share.

Stay tuned for more updates from us!

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