

UNITED NATIONS
INSTITUTE
FOR DISARMAMENT
RESEARCH

**REPORT ON AMERICAN REGIONAL SEMINAR AND
OUTREACH INITIATIVES FOR THE FACILITATION OF
THE DEVELOPMENT OF AN INTERNATIONAL CODE OF
CONDUCT FOR OUTER SPACE ACTIVITIES**

***SPACE EQUITIES: THE ROLE OF THE AMERICAS
IN BUILDING NORMS OF BEHAVIOUR***

Facilitating the Process
for the Development of an
International Code of Conduct
for Outer Space Activities



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The United Nations Institute for Disarmament Research (UNIDIR)—an autonomous institute within the United Nations—conducts research on disarmament and security. UNIDIR is based in Geneva, Switzerland, the centre for bilateral and multilateral disarmament and non-proliferation negotiations, and home of the Conference on Disarmament. The Institute explores current issues pertaining to the variety of existing and future armaments, as well as global diplomacy and local tensions and conflicts. Working with researchers, diplomats, government officials, NGOs and other institutions since 1980, UNIDIR acts as a bridge between the research community and governments. UNIDIR's activities are funded by contributions from governments and donor foundations.

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Report on American Regional Seminar and Outreach Initiatives for the Facilitation of the Development of an International Code of Conduct for Outer Space Activities:

“Space Equities: the Role of the Americas in Building Norms of Behaviour”

Introduction

The United Nations Institute for Disarmament Research (UNIDIR) held a regional seminar as part of its project “Facilitating the process for the development of an international code of conduct for outer space activities”, funded by the European Union (EU). This seminar, entitled “Space equities: the role of the Americas in building norms of behaviour”, examined the impact of space activities on the development throughout the region. In particular, it focused on growing vulnerabilities to space security threats and options for addressing these threats through the development of norms of behaviour. The seminar sought to give participants an opportunity to engage with one another and examine the potential role that states across the Americas—particularly emerging space actors in Latin America and the Caribbean—could play at the national, regional, and multilateral level in the development of norms.

Proceedings

Opening statements

The seminar was opened by Ben Baseley-Walker, Programme Lead for the Emerging Security Threats Programme at UNIDIR. Baseley-Walker stated that space security threats are cross-cutting issues that require a great deal of input from different parts of the international community and, as an autonomous research institute, UNIDIR is in a unique position to bring these parties together. While there is a recognized need for finding solutions to space security issues, Baseley-Walker stressed that there is still much to be discussed in terms of what form those solutions should take.

Ambassador Arturo Hernández Basave, Director General of the Directorate General for the United Nations Organizations of the Ministry of Foreign Affairs of the Government of Mexico, expressed his satisfaction that UNIDIR had chosen Mexico City as the location for the regional seminar. The Ambassador called such multilateral discussions on the development of norms for space activities a priority for Mexico, not least of all because it presented an opportunity to prevent the weaponization of outer space, an objective to which Mexico is fully committed. He applauded the ongoing multilateral initiatives to establish norms for space activities in space and emphasized the need for these processes to be as inclusive as possible.

Javier Mendieta, Director General of the Mexican Space Agency, drew attention to the increased competition in space over limited orbital resources that enable many critical space-based services. Noting that increased reliance on space capabilities means increased vulnerability to space security threats, Mendieta proposed that new rules are needed to ensure that all states will have access to outer space and can enjoy space-based benefits. He also stressed the importance of including as many states as possible in the development of these rules.

Panel I: The role of space across the Americas

Space resource utilization: space technology as an integral part of the infrastructure of the Americas (Ciro Arévalo Yepes, President, Latin America and Caribbean Regional Group in the International Astronautical Federation)

Space for development: a regional game changer? (Fermín Romero Vázquez, Secretary Pro Tempore, Space Conference of the Americas)

International partnerships for the development of domestic space capabilities (Roberto Becerra, Director, Office of International Affairs, Bolivarian Agency for Space Activities, Venezuela)

Ambassador (ret.) *Ciro Arévalo Yepes* spoke on the important role that space activities play across the Americas. He stated that the goal of all dialogue on the development of rules for outer space is the long-term sustainability of space activities for all, that is, ensuring that outer space will be a useful domain for future generations of all mankind. Among a number of important considerations for these discussions, he illustrated how many of the Latin American and Caribbean states

are united by common legal traditions, which results in similar views on numerous space security issues. He also drew attention to the rapid development of space technology and how the rise of the commercial space sector has cast doubt as to whether existing legal frameworks adequately respond to the needs of today's space actors. He pointed to the existing tradition of "first come, first served" in orbital assignments that has resulted in an imbalance of access to resources, with emerging actors having fewer resources available to them. Ambassador Arévalo Yepes noted that a new regulatory framework should be negotiated to regulate current space activities in order to ensure its continued usability, particularly through the prevention of weaponization of outer space. He stressed that all space actors, including emerging states and members of the private sector, should be invited to participate in these processes.

Fermín Romero Vazquez discussed how similar economic and cultural histories among the Latin American and Caribbean states had led to significant regional cooperation in the development of scientific and technical expertise for space activities. As a result, regional views of policy needs for space security in the region are often highly aligned. Such views are focused on free and equitable access to space for all, the long-term sustainability of space activities, and the continued use of space for peaceful purposes. According to Romero Vazquez, Mexico supports norms of behaviour as a means of proliferating widely accepted notions of responsible behaviour in space, such as the proposed International Code of Conduct for Outer Space Activities (ICoC). Having participated in the open-ended consultations for the development of the ICoC, held in Kiev on 16–17 May 2013, Romero Vazquez reported that Mexico has two objections to the ICoC that also can be applied more generally to all initiatives for the development of space norms. First, the development process for the ICoC is seen as being unorthodox and non-transparent. Secondly, the references to the inherent right to individual and collective self-defence are seen as an unacceptable encroachment on established principles of the use of outer space for peaceful purposes. Romero Vazquez concluded that the interests of emerging space actors in the region could be met in multilateral negotiations by consolidating diplomatic efforts in order to maximize negotiating power. This latter point would be crucial in order to ensure that any emerging norms of behaviour are responsive to the needs of Latin American and Caribbean space actors.

Roberto Becerra discussed emerging partnerships among Latin American and Caribbean states and their contribution to domestic space capabilities. He stated that space activities are a "high risk, high cost" undertaking but that the potential for improving education, medicine, disaster management, agriculture, science, and security make it a worthwhile investment. He indicated that states across the region are making space a priority in their national policies on economic and social development, thereby increasing regional dependence on space capabilities. To ensure continued access to space-based services, many states are looking to others, such as the Russian Federation and the People's Republic of China, to develop domestic expertise in manufacturing, launching, and operating space assets such as satellites. However, he noted that it is important to carry out space activities without prejudicing the activities of future generations. Becerra stressed the importance of keeping the long-term sustainability of activities at the centre of all discussions on frameworks for space.

Panel II: Why threats to space security matter

Increased vulnerability to space security threats: a cost–benefit analysis of growing dependency on space-based services (Agnieszka Lukaszczyk, Brussels Office Director, Secure World Foundation)

Space debris: the primary space security threat? (José Monserrat Filho, Head of International Cooperation Office, Brazilian Space Agency)

Realities of space debris: the Pegasus satellite (Ronnie Nader, Director, Space Operations, Ecuadorian Civilian Space Agency)

Agnieszka Lukaszczyk's presentation focused on why space security is becoming increasingly important even for states with emerging economies. She noted that space-based services contribute to economic, environmental, and social development, making space a costly but desirable investment; however, there is a misconception that outer space is the exclusive domain of large, wealthy states. A number of modest European economies have disproved this notion, having found relatively cost-efficient means to launch their own space programmes through coordination and shared resources. Lukaszczyk illustrated how different regions around the world are unaware of the extent of their reliance on space services, making it difficult for policymakers to justify spending scarce funds on space activities. She suggested that it is important for more inclusive dialogues on space security issues to be held, bringing in more stakeholders and spreading awareness of what is at stake in outer space.

José Monserrat Filho discussed the growing problem of space debris, seen by some as being the biggest threat to space activities today. He pointed to the recent collision of the Ecuadorian satellite Pegasus with a discarded part of a Russian rocket as evidence of the danger posed by space debris, and an illustration of the need to regulate space activity. He also brought attention to the threat of kinetic space weapons capable of physically destroying space assets and producing large quantities of space debris in doing so, as seen in 2007 when a Chinese weather satellite was destroyed in a kinetic

anti-satellite weapon test. Monserrat Filho underlined the need for solutions to the debris problem, such as active debris removal. He noted however, that there are numerous challenges to such active removal of space debris, including the legal definition of “space debris”, distribution of responsibility for debris removal, intellectual property, and liability for accidents occurring during removal. He also stressed the need to develop enhanced space situational awareness in order to reduce the risk of collision of assets with each other and space debris. He concluded that while there are a number of options to pursue debris removal and debris mitigation, it is important to ensure that, whatever means are selected, they should equitably allocate responsibility for current space debris, without imposing undue burden on emerging space actors.

Ronnie Nader provided a presentation on the collision of the Ecuadorian satellite Pegasus. He outlined the technical specifications of the satellite and the circumstances surrounding its collision. Nader’s presentation underlined the fact that, as evidenced in the case of Pegasus, space debris is a significant threat, even for small, inexpensive satellites. Such satellites are precisely the kind that are currently providing affordable options for emerging states to gain access to space-based services. He also stressed the potential contribution that enhanced space situational awareness could make in terms of collision avoidance.

Panel III: Exploring the options: an overview of multilateral rules and regulation for space activity

The UN outer space regime: legal instruments for the regulation of activities in outer space (Sergio Camacho Lara, Secretary General, Regional Centre for Space Science and Technology Education for Latin America and the Caribbean)

Existing technical and political guidelines impacting space security (Jana Robinson, Resident Fellow, European Space Policy Institute)

Transparency and confidence-building measures: tools to reduce the possibility of miscalculations and misunderstandings in outer space (Dana Johnson, Deputy Director, National Security Space Policy, Office of Missile Defense and Space Policy, Bureau of Arms Control, Verification and Compliance, Department of State, United States of America)

Developing voluntary “rules of the road” for the enhancement of safety, stability, and security in outer space (Jo Beadsworth, Desk Officer for Space Security and Emerging Technologies, Security Policy Department, Foreign and Commonwealth Office, United Kingdom)

Romero Vazquez delivered a presentation on behalf of Sergio Camacho outlining the existing regulatory framework for outer space activities. He noted that the building of legal instruments for space activities has been a gradual process, commencing with the United Nations General Assembly’s adoption of the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space. This document served as the basis for the United Nations framework for space activities, including the five United Nations treaties on outer space activities, the four non-binding sets of principles (none of which have thus far served as the basis for a further treaty in the same way as the Declaration), and a series of General Assembly resolutions. Much has been done to establish a regulatory framework for space activities through a combination of legally binding and voluntary measures and it was suggested that such an approach could continue to be useful as new solutions are sought for emerging space security threats.

Jana Robinson offered an analysis of how political and technical guidelines shape space activities today. While the existing international framework for space activities is already quite developed, Robinson suggested that updated political and technical agreements for responsible behaviour could mitigate security threats resulting from congestion and competition in space by providing guidance, raising awareness, and promoting the compatibility of multiple space activities. To illustrate the utility of non-legal instruments, she drew attention to several examples of politically binding agreements on difficult issues such as nuclear transparency and ballistic missile proliferation. She argued that similar agreements could be applied to better manage global space activities and ensure their long-term sustainability.

Dana Johnson discussed transparency and confidence-building measures (TCBMs) as tools to ensure that the present stability enjoyed by actors in the space environment is preserved. She described how TCBMs can build confidence in activities prone to mistrust and misperceptions through openness and predictability, citing the successful use of TCBMs by the Soviet Union and the United States during the Cold War. Johnson noted that space activities tend to create high levels of mistrust because they are difficult to monitor, involve sensitive technology, and because the purpose of space activities is not always clear. To ease this mistrust, new means of exchanging information and heightening space situational awareness would give all space actors a better idea of what is happening in outer space. Johnson concluded that the ongoing multilateral initiatives to establish norms of behaviour for space activities are a positive step towards ensuring the stability of the space domain.

Jo Beadsworth explained how norms of behaviour, or voluntary “rules of the road”, can enhance the safety, security, and sustainability of all space activities for all actors. Norms are typically expected patterns of behaviour resulting from established practices and can result in international peer pressure for actors to conform to a standard of conduct. Beadsworth indicated that policymakers have been able to mitigate clear and present threats to security in the past by raising the political costs of non-conforming behaviour. She stated that while a comprehensive treaty on space activities might be desirable, in the interim it would be useful to lay down norms of behaviour as a stop-gap measure in order to address space security threats before they reach critical levels of danger. She therefore concluded that initiatives, such as the ICoC, are useful for the enhancement of space security for all and that as many stakeholders as possible should participate in its development.

Panel IV: Meeting tomorrow’s challenges to sustainable space activities

The role of emerging space actors: supporting the participation of tomorrow’s space actors in today’s space security dialogues (Camilo Guzmán Gómez, Director, Department of Public Law, Sergio Arboleda University)

Appraising the effectiveness of voluntary rules in the space domain: an NGO perspective (Ray Williamson, Senior Adviser, Secure World Foundation)

Where are we now? Geopolitical realities and options for the Americas in moving ahead on space security issues (John Sheldon, Senior Fellow in Security Studies, Canada Centre for Global Security Studies, University of Toronto)

Camilo Guzmán Gómez stressed the importance of bringing emerging space actors into dialogues on security issues, particularly those that will play a near-term role in shaping space activities.. As he saw it, one of the problems of ensuring that all the necessary stakeholders are involved in multilateral initiatives is that it is difficult to effectively identify all stakeholders, particularly since many are unaware of the extent of their reliance on space-based services. To encourage participation in multilateral discussions, it is important to demonstrate the critical nature of space activities to national interests. If these new actors are not included in space security dialogues, Guzmán Gómez warned that the ongoing multilateral initiatives run the risk of being rejected in the future by emerging space actors. He therefore encouraged proponents of multilateral initiatives to make their processes more inclusive by establishing parallel dialogues with emerging space actors, inviting representatives from developing states to participate in consultations, and including experts from these states in development work.

Ray Williamson offered the perspective of a non-governmental organization (NGO) on how norms of behaviour might contribute to the preservation of stability in outer space. He defined space sustainability as “ensuring that all humanity can continue to use outer space for peaceful purposes and socioeconomic benefit”. To achieve space sustainability, he suggested that significant international cooperation and multilateral discussions would be necessary, with all parties being open to compromise. One illustration of the potential achievements of such cooperation is the Space Debris Mitigation Guidelines, a voluntary tool originating in the best practices of six national space agencies and ultimately adopted by the United Nations. He suggested that voluntary tools are useful in regulating behaviour in space because states, which are responsible for the activities of their citizens in space, want to be seen as responsible space actors by the wider international community. However, he cautioned that even voluntary norms of behaviour could have a disproportionate impact on emerging space actors because additional measures would have to be taken with already limited resources to ensure compliance with norms. For this reason, broad international consultations are necessary in order to ensure that emerging norms will be reflective of the needs of all space actors.

John Sheldon offered his insight on the relationship between space, security, and geopolitics, emphasizing two particular developments that have changed the way space activities are carried out. First, he pointed to the steep rise in the number of actors in space, noting that where once space was the domain of two states, the United States and the Soviet Union; now it is the domain of more than 60. Second, he highlighted the important contribution of the commercial space sector, a group that represents hundreds of billions of US dollars for the global economy. Aside from the commercial sector however, in other areas, such as space arms control, for the last several years little progress has been made. Evolving realities in space, he noted, offer new opportunities to approach old space security issues, such as arms control, with improved diplomatic relations being the basis for cooperation. Sheldon suggested that it is important for Latin American and Caribbean space programmes to increase not only their technical but also legal and policy capacities in order to be able to protect and promote their interests in multilateral initiatives to develop the regulatory framework in outer space activities. It was his view that a multi-stakeholder development process for tools such as norms of behaviour would enrich the utility of discussions and promote instruments that are more reflective of today’s needs in space.

Special Presentation: María Antonieta Jáquez Huacuja, Deputy Director General, Directorate General for the United Nations General Assembly, Space Agenda and Telecommunications, Ministry of Foreign Affairs, Mexico)

María Antonieta Jáquez Huacuja gave a special presentation on the discussions within the United Nations on the prevention of an arms race in outer space (PAROS). She gave an account of the Conference on Disarmament (CD) and explained why, in her view, work has come to a standstill in that forum. She pointed to political divides and the linking of issues within CD discussions as being the cause of the current paralysis, resulting in the CD having been unable to reach agreement on its work programme for many years. Jáquez Huacuja stated that, most worrying to her, is the fact that, while the CD is unable to commence work, activities in space seem to be progressing towards weaponization. As a solution to the deadlock, she asked whether it would be worthwhile changing the focus of discussions, and cited the example of recent progress that had been achieved in the context of smoking regulations by changing the emphasis of discussions away from the regulation of tobacco producers to protecting the rights of non-smokers.

Panel V: Ongoing multilateral efforts for the enhancement of stability in outer space through norms of behaviour

United Nations Group of Governmental Experts on TCBMs in Outer Space Activities (GGE) (Ben Baseley-Walker, Programme Lead, Emerging Security Threats, UNIDIR)

Working Group of the Scientific and Technical Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space on the Long-Term Sustainability of Outer Space Activities (LTSSA) (Rosa Ma. Ramírez de Arellano, Coordinator, International Affairs and Security in Space, Mexican Space Agency)

International Code of Conduct for Outer Space Activities (Jacek Bylica, Principal Adviser and Special Envoy, Non-Proliferation and Disarmament, European External Action Service, European Union)

Ben Baseley-Walker discussed the work being carried out by the GGE, a group seeking to “strengthen international peace and security and to contribute to the development of confidence, better understanding and more stable relations between nations, thus creating and improving the conditions for fruitful international co-operation”. In particular, he noted that TCBMs could contribute to reducing threat perceptions related to space activities. While the GGE’s focus is on non-legally binding measures, its proposals do not exclude the possibility of the development of a legally binding instrument. At the time of the seminar, the GGE, a group of 15 members, had held two meetings on the development of TCBMs, with a third and final session scheduled for 8–12 July 2013. The group is due to report its findings to the United Nations Secretary-General later in the year.

Rosa Ma. Ramírez de Arellano delivered a presentation on the ongoing work of the LTSSA, a group tasked with making recommendations on voluntary measures that could help ensure the long-term sustainability of space activities. She emphasized that the group’s mandate only covers space activities for peaceful purposes. Ramírez de Arellano was of the view that the output of the LTSSA will provide useful guidance to states on what is responsible behaviour in outer space, but that voluntary measures would only serve as a “short-term solution” and that efforts should continue to be deployed towards adopting a formal treaty on space activities. She argued that without such an instrument, access to the most useful orbits would become extremely limited, reducing the utility of space-based services for all.

Ambassador Jacek Bylica presented the European Union’s proposal for an ICoC, an initiative that had already been the subject of significant discussion at the meeting. He explained that the EU proposed the Code in response to a call by the United Nations Secretary-General for specific proposals to tackle threats to stability in outer space. The Ambassador agreed with many of the participants that a formal treaty may be an optimal solution for establishing a framework to govern space activities, it arguably would take too long to negotiate such an instrument in the face of growing space security threats. As such, it is the EU’s opinion that the ICoC would be a meaningful step towards ensuring stability in space and could perhaps even serve as the basis for achieving a formal treaty. He noted that open-ended consultations had been held in Kyiv, Ukraine, on 16–17 May, where representatives of the international community had been invited to give comments to the EU on the present draft of the ICoC. The Ambassador stated that a revised text of the ICoC would be sent out in August/September 2013 along with invitations to a second round of open-ended consultations, to be held in November 2013.

Breakout groups

The purpose of the UNIDIR seminar was to provide a forum for key stakeholders across the Americas to explore the potential role that they might play in initiatives to develop norms of behaviour at the national, regional, and multilateral level. To this end, participants of the seminar separated into two groups to discuss how space security issues might be approached, and the available mechanisms to mitigate emerging security threats.

In the view of the first group, the most immediate threats to stability in space are those of space debris, anti-satellite technology, and frequency interference. They emphasized the consequences for human lives that could result from these threats. Using the Pegasus satellite collision as an example, they indicated that the impact of space security threats

on critical infrastructure on Earth is extremely high, with the impact likely to be felt most acutely by those states with highly-developed space capabilities that are deeply integrated into national infrastructure. Initiatives such as the GGE and the ICoC were generally seen favourably by the group, and it was felt that the guidelines contained therein should be incorporated into states' space policies. As technical, practical recommendations, they proposed that international cooperation should be used as a means of promoting best practices and developing home-grown expertise based on sound training programmes.

The second group reported that, in its view, the existing regulatory framework for space activities is inadequate for addressing today's space security threats. In particular, they felt that the current framework does not address key issues at all, such as the weaponization of outer space. In their view, discussions should be held within United Nations forums to consider how best to update the existing framework. While this group was not against taking small measured steps to address space security issues, they strongly favoured continuing efforts to establish a formal treaty. They also stressed that states involved in negotiations for norms of behaviour or formal treaties need to think collectively and for the benefit of all.

Closing

In closing, Javier Mendieta noted that much needs to be done to protect the fragile space infrastructure that people depend on all over the world from natural and man-made threats. He agreed in particular that a change of focus could help get multilateral negotiations moving on future space legislation. Mendieta also stressed the importance of making these negotiations inclusive, so that any rules for space activities take into account the needs of tomorrow's space actors.

Ben Baseley-Walker summed up the event by acknowledging the potential merits of pursuing a formal treaty, noting however, that in the near term and in light of the discussions at the seminar, the pursuit of intermediate steps towards the long-term sustainability of outer space activities is of growing importance.

Conclusion

The UNIDIR seminar brought together experts and state representatives to examine the relationship between space activities, emerging security threats, and norms of behaviour, all within the context of wider regional development. While the importance of the long-term sustainability of space activities is widely acknowledged, there are still differing views on how best to shape a future regulatory framework for space activities. It was clear from the discussions during the seminar that Latin American and Caribbean states—which have similar technical, legal, and political interests in outer space—are generally supportive of the concept of norms of behaviour but share a number of substantive reservations unique to their legal and political traditions. In particular, while not opposed to the development of norms, numerous Latin American and Caribbean states maintain that a legally binding instrument should be developed to prevent the weaponization of outer space. Throughout this seminar, it was reiterated that an inclusive negotiating process for the development of any rules for space activities, including norms, could ensure that resulting tools are compatible with the needs of all, particularly emerging space actors. Overall, it is clear that the states of the Americas, especially Latin America, are increasingly aware of their dependence on space resources and the importance of safeguarding these resources in the long-term. The high level of engagement and participation at this seminar demonstrated a clear willingness to work towards constructive agreement and action on securing space sustainability going forward.



**Facilitating the Process for the Development of an
International Code of Conduct for Outer Space Activities**
CFSP/2012/05/COC-UNIDIR, carried out with funding by the European Union