Manual on International Law Applicable to Military Uses of Outer Space:

Rules for Peacetime,
including challenges to peace

Project Description

May 2021

Founding Institution

McGill | Centre for Research in Air and Space Law
Centre de recherche en droit aérien et spatial

Partner and Collaborating Institutions

北京理工大學
BEIJING INSTITUTE OF TECHNOLOGY

Institute of Air and Space Law
University of Cologne

idsa
INSTITUTE FOR DEFENCE STUDIES & ANALYSES
रक्षा अध्ययन एवं विश्लेषण संस्थान

Keio Space Law Center
慶應義塾大学
Keio University
Tokyo, Japan

STU
ST.THOMAS UNIVERSITY
LL.M. PROGRAM IN CYBERSECURITY LAW & POLICY

Saint Petersburg State University

SECURE WORLD FOUNDATION

WESTERN SYDNEY UNIVERSITY

Supporting Institutions

Government of Canada / Gouvernement du Canada

SSHRC CRSH

Social Sciences and Humanities Research Council of Canada
Conseil de recherches en sciences humaines du Canada

I. Introduction

The project to draft the ***Manual on International Law Applicable to Military Uses of Outer Space*** (MILAMOS or the McGill Manual) was originally conceived and publicly inaugurated at McGill University in May 2016. The Project, as proposed, promoted and presented to various stakeholders and financial benefactors, is to develop a widely-acceptable manual that clarifies *lex lata* (existing) rules applicable to military uses of outer space by both States and non-State actors in peacetime, including in times posing challenges to peace.

The Manual will fill the legal lacunae with respect to issues that for decades have been the source of debate and disagreement among policy makers, legal practitioners, military strategists, and academics.

A consensus-forming and rule-drafting workshop of the MILAMOS Project, held in Beijing, China, in November 2018.

II. Description

Mission Statement

To develop, within a period of three years, a manual that objectively articulates and clarifies existing international law applicable to military uses of outer space in time of peace, including in times posing challenges to peace.

The MILAMOS Project is a unique endeavour achieved through the joint efforts and collaboration of selected experts and contributors knowledgeable and experienced in the domains of international law, international space law, space applications and technology, and military activities. The McGill Manual is a global effort, reflecting the consensus of the experts, all participating in their personal capacities, on the state of international law as it currently stands in relation to a range of military activities in the domain of outer space.

Indeed, in light of rising geopolitical tensions on Earth, in recent years various initiatives at the intergovernmental level sought to adopt instruments to increase transparency regarding the conduct of space activities, minimise misunderstandings and distrust, and prevent the extension of armed conflict into the final frontier. However, such initiatives have resulted in the adoption of non-binding instruments that may be perceived as lacking in legal weight or value in properly addressing the types of military activities and applications that are permissible or prohibited in outer space. These concerted multilateral efforts underline the need of having a single, independent, international, neutral and objective document that captures the existing international law governing military space activities.

International law in general defines the legality and scope of responsible behaviour in situations that fall short of armed conflict, and there are legal consequences for States that breach their international obligations toward other States and the international community as a whole. As the military uses of outer space, as well as the number of States and non-State actors involved in such activities, are rapidly increasing, clarifying and emphasising that aggression, unlawful intervention, and the threat or use of force in space, like in other areas, are generally prohibited is urgently needed to dissuade the actual use of force and avoid future conflicts (wars) in outer space. Acknowledgement by States and international experts in the legal domain of these fundamental concepts amount to a significant transparency and confidence-building measure, which would in turn help enhance the visibility, security and sustainability of activities in outer space.

The McGill Manual is intended as a one-point-reference resource, and can be understood and used by any space operator, stakeholder or interested party even without the advanced legal knowledge or training. While other manuals have been specifically drafted to clarify the application of the law of armed conflict (LOAC), none have focussed on outer space. The McGill Manual clarifies the fundamental rules applicable to military uses of outer space by both States and non-state actors in peacetime and in times posing challenges to peace. This is expected to enable States and non-governmental entities to assess the legality and consequences of such activities, thereby enhancing and enforcing the transparency and build confidence in outer space.

A plenary meeting in progress during Workshop V, held at Montreal, Canada, in July 2018.

III. MILAMOS Guiding Principles

Since its inauguration, the Project has steadily progressed per the decided plan, vision and objectives. The Project and all participants in the Project subscribe to the following principles and roadmap:

1. Military uses of outer space have important political and strategic implications for all spacefaring nations and for humanity in general. In particular, assured access to space is for many spacefaring States an essential national security concern. Therefore, from the moment of inception, the **vision of the MILAMOS Project** is:

   > *To contribute to a future where all space activities are conducted in accordance with the international rules-based global order, without disrupting, and preferably contributing to, the sustainable use of outer space for the benefit of present and future generations of all humanity.*

2. **The Project aims to develop a widely-acceptable manual that clarifies the fundamental rules applicable to military uses of outer space by both States and non-State actors in time of peace and in times posing challenges to peace.**

   The Manual aims to cover the legal ramifications of all military uses of outer space, to reflect legal viewpoints from across the globe, and to attract a broad audience in academia, the legal profession, and policy circles. Reflecting the fact that many space objects may be used simultaneously for military and non-military purposes (i.e. are dual-use capable), and that many space activities may entail a military use of outer space despite not being performed or owned by military establishments or personnel (e.g., when armed forces contract services from the private sector), the McGill Manual is intended for use by a wide spectrum of space operators, stakeholders, experts, and interest groups (e.g., officials from various ministries or department of government, private space actors, intergovernmental and non-governmental organisations, civil society, academics and others) with an interest in the security and sustainability of space activities.

   Methodologically speaking, the Manual examines the broad range of military uses of outer space (as widely understood) and determine the relevant principles and rules of international law that apply to military uses of outer space. This is achieved through an intensive and interactive process of deliberations and consensus-forming workshops between members of a select group of international experts.

3. **The McGill Manual will be a practical manual. It aims at clearly and precisely restating and clarifying the *lex lata*** by exclusively using official and primary sources of international law.

The McGill Manual will be innovative in reflecting the unique nature of outer space environment and distinctive character of international space law. The McGill Manual would treat disciplines of general international law and international space law as equal and integral to the Manual. In objectively determining the applicability of *lex lata* rules of international law, it is essential to carefully identify and examine State practice to decipher the legality of a range of military and non-military space activities in order to guide the behaviour of stakeholders in the space context. Applicable rules of various branches of international law as well as specificities of the outer space environment in several ways differ from other terrestrial domains. The processes and successes of other manuals may be used as a guide to identifying the applicable rules, but only after very careful analysis of the nature, scope, impact and implications of each space activity/action that directly or indirectly are military in nature.

General John Raymond addressing participants at MILAMOS Workshop IV, held at the United States Air Force Academy, the United States of America, in October 2017.

4. **A truly global partnership of stakeholders and representation of perspectives** is crucial to the ultimate success and acceptance of such an ambitious international endeavour.

   Partners from across the globe are actively engaged to ensure that the McGill Manual accurately captures the nuances and perspectives of different States and relevant stakeholders, and is reflective of the wide spectrum of interests and concerns relating to the military uses of outer space. Experts from various institutions, including Western Sydney University (Australia), Beijing Institute of Technology (People's Republic of China), Cologne Institute of Air and Space Law (Germany), Institute for Defense Studies and Analyses (India), Keio Space Law Centre (Japan), Secure World Foundation (United States), St. Petersburg State University (Russian Federation), and St. Thomas University (the United States) have all joined the MILAMOS Project, thereby adding much valued global perspectives, weight and credibility to this international collaborative effort.

   Only by embracing partners from around the globe will the manual-drafting and consensus-forming process, and the resultant Manual, achieve the intended objective of being an acceptable, independent, neutral, objective, and authoritative document of practical use and value.

5. **To ensure the rule-drafting process and work product is truly the result of group effort, and not of individuals, intellectual property rights (including copyright) in all the materials produced for the MILAMOS Project is vested in McGill University** (The Royal Institution for the Advancement of Learning).

   To this end, participants contribute in a personal capacity on the basis of their own views on what the law is, independent of any official position or preference of their respective States or organisations.

IV. Organisational Structure and Rule-Drafting Process

MILAMOS Group of Experts at a workshop in Montreal, Canada, in July 2018.

In order to ensure world-wide participation, neutrality, objectivity and academic rigour, the Manual is drafted by experts from across the globe, each acting in their personal capacity. The organisational structure of the Project has therefore been designed to reflect and capture legal viewpoints from across the globe, and to ensure that the Manual and associated commentary are truly the result of global input and global consensus.

The MILAMOS Project is headed by Professor Ram Jakhu, the **Project Director** who assumes a leadership role in guiding the intellectual direction of all research-related activities. The Project Director also assumes administrative and financial responsibility for the Project, and heads the partnership of global institutions and stakeholders involved in the Project.

The **Board of Advisors and External Consultants** consists of prominent and experienced persons from various States and stakeholder institutions. The Board, chaired by the Director of the McGill Institute of Air and Space Law, Professor Brian Havel, is present to advise the Project Director in the strategic direction and management of the Project, and to ensure that all relevant perspectives are adequately considered and reflected during the Manual-drafting process. The Board also functions as a conduit to inform and engage States and governments about the manual-drafting process.

The **Co-Editors of the Manual** are Professor Ram Jakhu and Professor Steven Freeland. They have the ultimate responsibility for directing the drafting of the Rules and Commentaries and the compilation of the Rules and Commentaries into the final text of the Manual. In this regard, the Co-Editors are supported by **Associate Editors**, Ms. Elina Morozova and Dr. Philip de Man, and **Managing Editor**, Mr. David Kuan-Wei Chen, who manages the MILAMOS Project and assists the editing of the text of the Manual.

Major editorial decisions in the MILAMOS Project are formally made by the **Editorial Committee**. The Committee amalgamates draft rules, and ensures the final text of the black-letter rules and associated commentary of the Manual is coherently and consistent drafted in accordance with the standardised drafting guidelines. All major editorial decisions in the Committee are made by consensus; and if consensus is not possible, the Co-Editors will have final say while acknowledging majority/minority views.

The Editorial Committee is composed of the Co-Editors, Associate Editors, invited Core Experts, the Lead Technical Expert, and if need be, invited External Experts or External Advisors. The Committee is supported by the Managing Editor, the Research Coordinator, and Research Assistants. Care has been taken to ensure the Editorial Committee members are recognised and experienced persons from the space operators or academia from various States, with the participation of experts from the major spacefaring States of China, Russia and the United States.

Members of the Editorial Committee are:

- Prof. Setsuko Aoki (Japan);
- Prof. Roy Balleste (United States);
- Dr. Philip de Man (Belgium);
- Mr. Gilles Doucet (Canada);
- Prof. Steven Freeland (Australia);
- Prof. Stephan Hobe (Germany);
- Mr. Peter Hulsroj (Austria);
- Prof. Ram Jakhu (Canada);
- Ms. Elina Morozova (Russia); and
- Prof. Gouyu Wang (China), with Prof. Jinyuan Su (China) as an alternate.

Experts involved in the Project, who collectively form the **MILAMOS Group of Experts,** have been carefully selected based on their recognised expertise and experience in the domain of military uses of outer space, and based on ensuring adequate geographical representation, gender diversity and a fair balance of civilian and military perspectives. **Legal Experts** are actively supported by **Technical Experts**, who are scientists and persons with specialist technical expertise of activities in and the nature the space environment.

Associate Experts may also be members of the Rule-Drafting Group, and called upon to initiate, contribute and/or review rules on an as-needed basis. The **Research Coordinator**, Mr. Bayar Goswami, is present to initiate, supplement and ensure progress of the drafting process and coordinate the research efforts of the International Group of Experts. **Research Assistants** and Post-doctoral candidates will be present to assist the work of the plenaries.

The **rule-drafting and consensus-forming Workshops** form the backbone of the MILAMOS Project. The Experts meet in plenary sessions at each Workshop to discuss draft rules and associated commentary on a basis of non-attribution and will seek consensus on the articulation of the rules and commentary. The commentary accompanying each rule includes discussions on the origins, scope and sources of disagreement, as well as examples or scenarios of military uses of outer space relevant to the rule. Observers from relevant governmental ministries, civil society and academic institutions, and the armed forces of various States, are welcome to attend, and contribute to, the plenary meetings of these Workshops. All decisions in the Plenaries are made by consensus, and if consensus is not possible, the final decision is made by recording majority/minority views.

MILAMOS Workshop held at the Beijing Institute of Technology, Beijing, China, October 2018.

To date, rule-drafting and consensus-forming workshops have been held in various locations around the world:

- Inaugural Workshop October 2016 in Montreal, Canada;
- Workshop I February 2017 in Adelaide, Australia;
- Workshop II June 2017 in New Delhi, India (co-organised with the Institute for Defence Studies and Analyses);
- Workshop III October 2017 in Colorado Springs, the United States of America;
- Workshop VI July 2018 in Montreal, Canada;
- Workshop V October 2018 in Beijing, People's Republic of China (co-organised with the Beijing Institute of Technology);
- Workshop VI February 2019 in Montreal, Canada;
- Workshop VII May 2019 in Berlin, Germany (co-organised with the Federal Ministry of Defence of Germany);
- Workshop VIII October 2019, Montreal, Canada;
- Virtual Workshop I July 2020; and
- Virtual Workshop II August 2020

In addition to being a valuable opportunity for the MILAMOS Group of Experts to meet and collaborate in person or online, the workshops provided the platform to engage representatives of States, relevant stakeholders, and inform the general public around the world of the progress and developments in the MILAMOS Project.

Once the first drafts of all the rules have been adopted at plenary, they are carefully coordinated and integrated in the clear and cohesive final text of the Manual. This role falls on the Editorial Committee, which to date has held meetings in various locations around the world:

- Editorial Committee Meeting I April 2019, Montreal, Canada; and
- Editorial Committee Meeting II July 2019 in Tokyo, Japan (co-organised with the Center for Space Law, Keio University)

The text of the McGill Manual will be peer-reviewed by a carefully selected international panel of **Expert Reviewers** composed of independent and reputable legal, technical, and other duly qualified experts. Comments and feedback from this geographically diverse and gender-balanced panel of Expert Reviewers are solicited and taken into consideration before the Manual is submitted for publication. The MILAMOS is planned to be finalised by the end of 2021. Springer will publish the McGill Manual as an open-access publication by early 2022.

The **MILAMOS Secretariat** is based at the McGill University Centre for Research in Air and Space Law, Montreal, Canada, and is responsible for providing the administrative, financial and logistical support for the MILAMOS Project. The Secretariat is headed by the Managing Editor, Mr. David Kuan-Wei Chen, and the Financial Administrator, Ms. Maria D'Amico.

Members of the Editorial Committee and several Research Assistants at a meeting of the first Editorial Committee in Montreal, Canada, in April 2019.

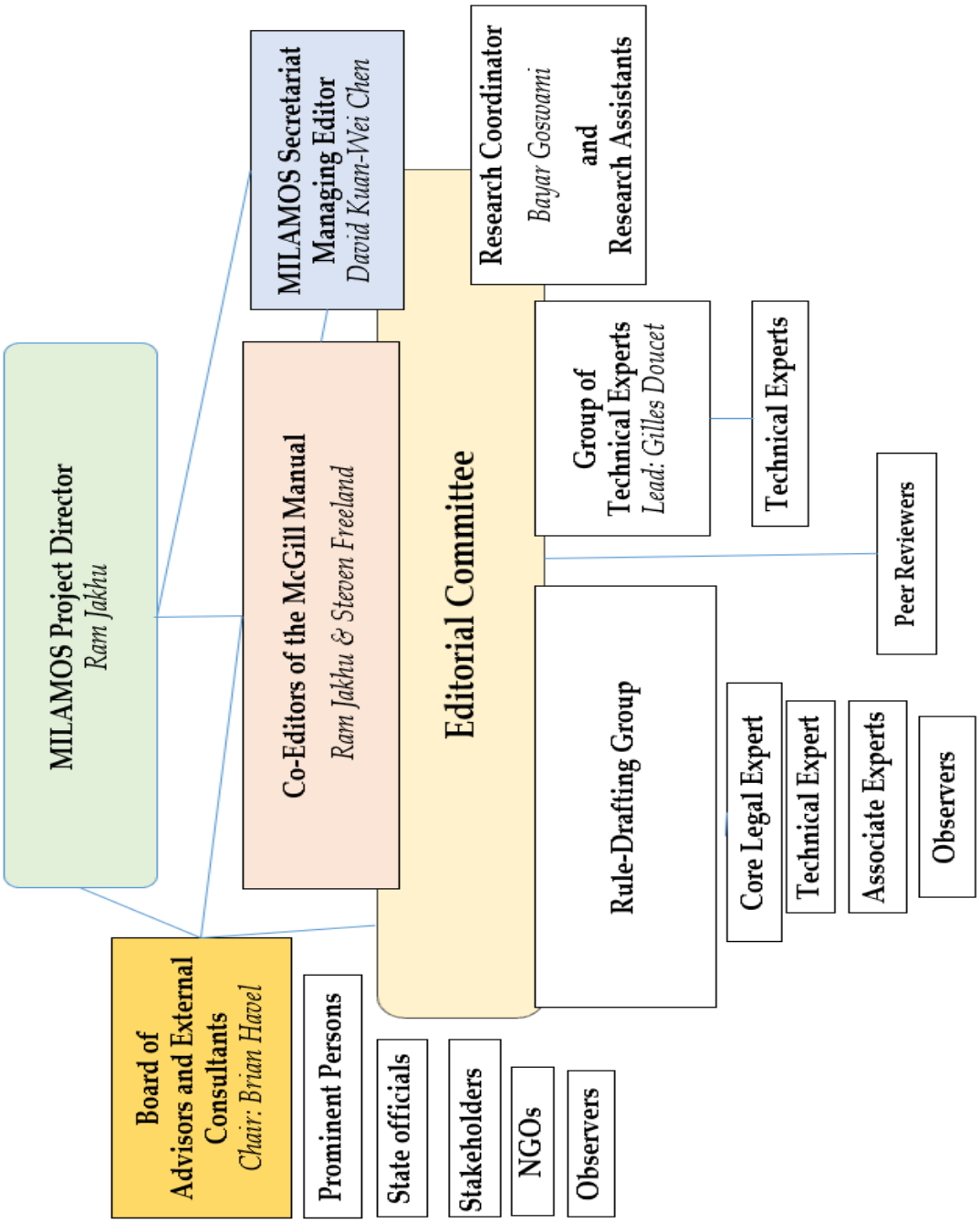
V. Progress and Developments to Date

Since the inception of the MILAMOS Project, the unique international collaborative effort to restate and clarify international law as it applies to military uses of outer space in time of peace, including challenges to peace, has attracted much worldwide attention. In addition to being the focus of much international media coverage, several Experts involved in the Project have been invited to speak about the process and progress of the Project at various international conferences and for a across the globe.

At the high-level meeting organised to mark the fiftieth anniversary of the first United Nations Conference on the Peaceful Uses of Outer Space (UNISPACE+50), the MILAMOS Project presented as a prime example of a successful civil society initiative to bring together various stakeholders in the space domain with the objective of fostering dialogue and consensus on matters relating to the sustainability, safety and security of outer space. At the 62nd Session of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), the Intersputnik International Organization of Space Communications (Intersputnik) expressed the "privilege" to be actively participating in and contributing to the drafting of a manual "aimed at ensuring [the] safe and responsible conduct of space activities". In 2018, Co-Editor and Project Director Professor Ram Jakhu addressed delegates of the Sixth Committee of the UN General Assembly. Speaking on the side-lines of the 73rd Session of the Sixth Committee at the UN Headquarters in New York, which presented a unique opportunity publicise the work and progress of the MILAMOS Project at the multilateral level.

In recognition of the value of the McGill Manual to inform the progressive development of international law as it applies to outer space, several States and the External Action Service of the European Union, and stakeholder institutions have sent Observers to attend the rule-drafting and consensus-forming workshops over the years. As the Project draws to a close, several governments have volunteered to provide financial resources and opportunity to hold in-person engagement and socialisation events that will further publicise the McGill Manual in diplomatic and space law circles.

VI. Organisational Structure



VII. Participants and Contributors in the MILAMOS Project

Co-Editor of the McGill Manual, Professor Steven Freeland, addressing the Group of Experts during MILAMOS Workshop V, in July 2018.

In alphabetical order

MILAMOS Board of Directors and External Consultants (in their personal capacity)

- Prof. Brian Havel (McGill University, Institute of Air and Space Law, Canada)
- Prof. Stephan Hobe (University of Cologne, Institute of Air and Space Law, Germany)
- Dr. David Kendall (Outer Space Institute, Canada)
- Prof. Shouping Li (Beijing Institute of Technology, Institute of Space Law, China)
- Amb. (retired) Paul Meyer (The Simons Foundation and Fellow in International Security, Simon Fraser University, Canada)

MILAMOS Group of Core Experts (in their personal capacity)

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- Cpt Jérémie Ayadi (French Joint Space Command, France)
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- Major Ross Brown (United States Air Force JAG Corps, United States)
- Lt. Col. Simone Davis (United States Air Force JAG Corps, United States)
- Emeritus Prof. Dr. Steven Freeland (Western Sydney University, Australia)
- Maj. John Goehring (United State Air Force, United States)
- Mr. Ulf Haeussler (Federal Ministry of Defense of the Federal Republic of Germany, Germany)
- Mr. Christopher Johnson (Secure World Foundation, United States)
- Prof. Dr. Stephan Hobe (University of Cologne, Institute of Air and Space Law, Germany)
- Ms. Deborah Housen-Couriel (Interdisciplinary Cyber Research Center at Tel Aviv University and Haifa University's Law Faculty, Israel)
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- Prof. Dr. Ram Jakhu (McGill University, Canada)
- Prof. Dr. George Kyriakopoulos (National and Kapodistrian University of Athens, Greece)
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- Dr. Elena Cirkovic (University of Helsinki, Finland)
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- Mr. Gilles Doucet (Spectrum Space Security Inc., Canada)
- Dr. Stuart Eves (Vaeros Ltd, Aerospace Corporation UK, United Kingdom)
- Prof. Dr. Moriba Jah (University of Texas at Austin, United States)
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Expert Reviewers (in their personal capacity)

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- Dr. Catherine Doldirina (D-Orbit, Italy)
- Dr. Marco Ferrazzani (European Space Agency, France)
- Emerita Prof. Joanne Gabrynowicz (Emerita Editor-in-Chief, Journal of Space Law, USA)
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VIII. Contact Information

For more information about the MILAMOS Project, please visit:

www.mcgill.ca/milamos

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