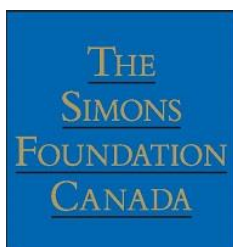


2021-2022
Graduate Research Awards
for Disarmament, Arms Control and Non-Proliferation



Global Affairs Canada
Lester B. Pearson Building
Ottawa, Canada
November 30, 2022

A joint project of:



and



Global Affairs
Canada

Affaires mondiales
Canada

Executive Summary

The **Graduate Research Awards for Disarmament, Arms Control and Non-proliferation** (GRA) programme was initiated in 2003 by Dr. Jennifer Allen Simons, President of [The Simons Foundation Canada](#), in partnership with the [International Security Research and Outreach Programme \(ISROP\)](#) of Foreign Affairs and International Trade Canada (now [Global Affairs Canada](#)). The primary objective of the Awards is to enhance Canadian graduate level scholarship on non-proliferation, arms control and disarmament (NACD) issues.

Since its inception, the Graduate Research Awards programme has provided over \$425,000.00 in scholarships to Canadian graduate students working on policy-relevant NACD issues and has helped to encourage a new generation of young Canadian scholars dedicated to further expanding their knowledge and expertise on these critical issues.

Originally, the programme offered three Doctoral Research Awards four Master's Research Awards of to support research, writing and fieldwork leading to the completion of a major research paper or dissertation proposal on an issue related to disarmament, arms control and non-proliferation.

The Graduate Research Awards for Disarmament, Arms Control and Non-Proliferation competition was later restructured to consist of a series of debates on timely issues. The eight students who made the strongest argument in support of their position, as determined by an expert review panel, were selected to receive a Graduate Research Award and required to defend their position in person at the GRA Debates held at the Department of Foreign Affairs headquarters in Ottawa.

The competition has since been revised to simplify the application process and increase the value of the cash awards. A total of four awards of CAD\$5,000 are now available to Canadian Master's and/or Doctoral candidates to support the research and writing of an academic paper responding to a specific Non-Proliferation, Arms Control and Disarmament (NACD) topic.

This year, Master's and Doctoral candidates chose to address one of the following subjects:

1. Recent developments in the space industry have contributed to widening geopolitical divides between Western ally nations and Eastern space actors, to the point where many security experts fear that space could become a new domain of modern warfare. What steps internationally and domestically can be taken by Canada to exert leadership in preventing the proliferation of hostilities in space and inspire greater cooperation between rivalrous space actors? Are there lessons or examples might we learn from past policies, treaties, or practices that have worked to promote peace in other domains here on Earth.
2. The COVID-19 pandemic has led the UN Secretary General and other world leaders to warn that the pandemic's impacts may increase threats posed by biological weapons development and use by states or terrorists. How can heightened awareness of catastrophic biological risks be leveraged to overcome the 20-year impasse within the Biological and Toxin Weapons Convention (BTWC), and what practicable and accomplishable proposals could be put forward to strengthen the BTWC in the near, medium and long terms?

3. Article VI of the NPT commits NPT recognized nuclear-weapon states to “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” Progress on implementing Article VI and on advancing nuclear disarmament in general has stalled. Some of the reasons for this that have been suggested include the following:

- Lack of trust among states
- Poor relations among states
- Deteriorating international security environment
- Divergent views on how to maintain international security such as those that adhere to nuclear deterrence as the ultimate guarantee of security and those that believe in a total prohibition of nuclear weapons such as what is called for under the Treaty on the Prohibition of Nuclear Weapons (TPNW).

What are the most important issues inhibiting progress on Article VI of the NPT on nuclear disarmament and what can Canada do to help achieve nuclear disarmament?

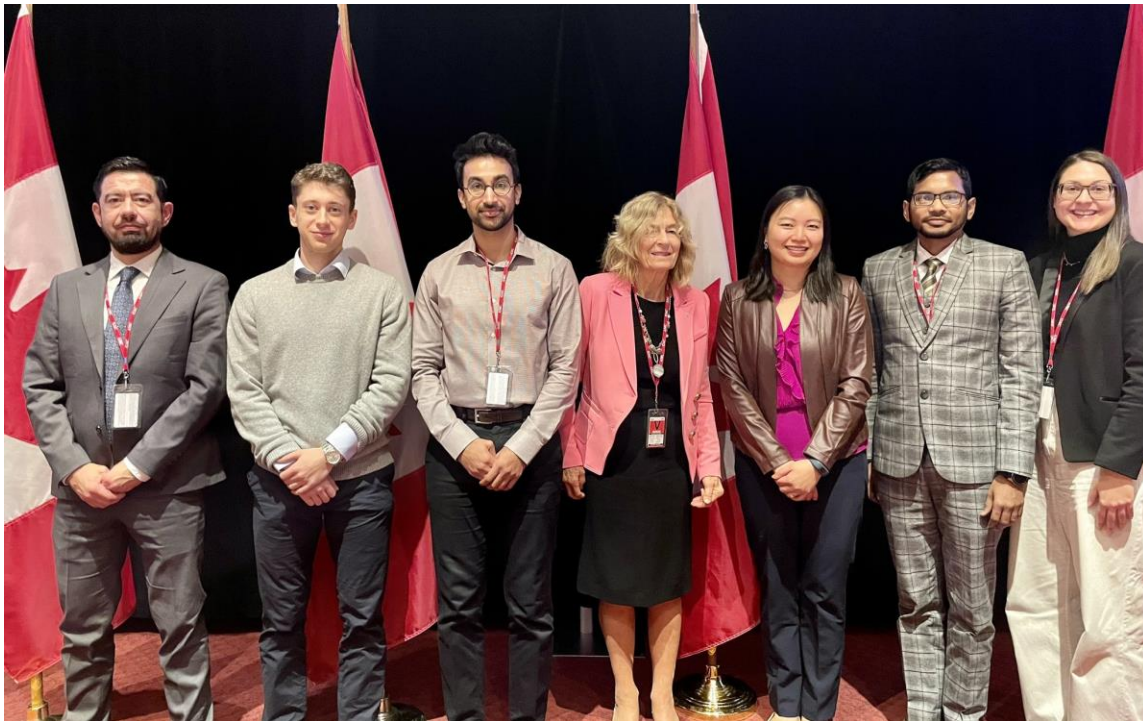
4. Please comment on the following statement: “Disruptive technologies pose both risks and opportunities to nuclear decision-making” ([European Leadership Network](#)) by potentially increasing or mitigating the risks of nuclear use, deliberately or inadvertently.
5. The Russian Federation published on December 17, 2021, a [draft agreement](#) on measures to ensure the security of The Russian Federation and member States of the North Atlantic Treaty Organization. Please provide an analysis regarding the implications (positive and or negative) of its article V related to arms control to each Party of this agreement (Russia and NATO member states).

We are pleased to congratulate the following recipients of a 2021-2022 Graduate Research Award in Disarmament, Arms Control and Non-Proliferation who each received a cash award of CAD\$5,000.00 from The Simons Foundation Canada as well as travel support to Ottawa to participate in the Seminar and Award Ceremony.

- **Rahim Ali**
Master of Arts, International Affairs
Norman Paterson School of International Affairs, Carlton University
& Juris Doctor
University of Ottawa
- **Jean-Samuel Houle**
Master of Arts in Public and International Affairs
University of Ottawa
- **Mohammad Rezaul Karim**
Ph.D., Civil and Environmental Engineering
University of Alberta
- **Marie-Christine Paré**
Affaires publiques et internationales – Maîtrise
Université d’Ottawa

The successful candidates presented their papers at a special seminar and Award Ceremony hosted by Global Affairs Canada at the Lester B. Pearson Building in Ottawa on November 30, 2022 where the keynote address was given by Cesar Jaramillo, Executive Director of Project Ploughshares.

We also wish to recognize Tristan G.Garcia, Senior Policy Officer (W.M.D and Nuclear NACD policy) and Vanessa Wiley, Senior Policy Analyst (Nuclear and Chemical Non-Proliferation, Arms Control and Disarmament Policy of the Non-Proliferation and Disarmament Division (IGN) at Global Affairs Canada and Elaine Hynes of The Simons Foundation Canada for their work to coordinate and execute the programme this year.



Recipients of the 2021-2022 Graduate Research Awards for Disarmament, Arms Control and Non-Proliferation with Jennifer Allen Simons, President of The Simons Foundation Canada, and Angelica Liao-Moroz, Executive Director of the Non-Proliferation, Arms Control and Space Division, Global Affairs Canada. (photo credit: Global Affairs Canada)

Left to right: Cesar Jaramillo, Jean-Samuel Houle, Rahim Ali, Jennifer Allen Simons, Angelica Liao-Moroz, Mohammad Rezaul Karim, Marie-Christine Paré.

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2021-2022 Graduate Research Awards for Disarmament, Arms Control and Non-Proliferation Research Seminar and Awards Ceremony

Robertson Room, Global Affairs Canada

30 November 2022

Opening Remarks

Angelica Liao-Moroz, Executive Director

Non-Proliferation, Arms Control and Space Division

Global Affairs Canada



Bonjour à tous. Bienvenue à la Cérémonie des bourses de recherche pour les diplômés en désarmement, contrôle des armes et non-prolifération.

Nous sommes ravis d'avoir pu organiser cet événement en personne cette année, et de vous accueillir à Affaires mondiales Canada.

Tous nos félicitations aux lauréats. Nous avons hâte de discuter avec vous aujourd'hui de vos essais qui suscitent la réflexion sur un éventail d'enjeux qui nous préoccupent. Il s'agit d'un événement annuel important pour nous, et nous sommes reconnaissants de notre partenariat de longue date avec la Fondation Simons, qui rend ces prix possibles. Merci, Dr. Simons.

As Canadians, we seek to strengthen global peace and security through multilateral frameworks and institutions respecting the rules-based international order.

However, the world is facing significant upheaval and stressors. Against this backdrop, many people are asking what will be required to mobilize sufficient will for states to strengthen collaboration in recognition of a common humanity.

A few examples:

North Korea has launched an unprecedented number of missiles this year, including ballistic missiles and has upped its threatening nuclear rhetoric.

Iran is enriching uranium to near weapons grade, which advances its ability to develop nuclear weapons, should it choose to do so. Prospects to restore the Joint Comprehensive Plan of Action are dimming.

Growing mistrust between major state actors has highlighted the urgency for disarmament amid deepened polarization. To overcome mistrust, these actors must be at the table.

China is increasingly assertive on the international stage and it has thus far rejected any arms control talks with the US or in a multilateral format.

Russia's invasion of Ukraine and dangerous rhetoric around the use of nuclear or other weapons of mass destruction, and its reckless seizure of the Zaporizhzhia nuclear power plant have magnified tensions.

The New Strategic Arms Reduction Treaty – new START – is the only remaining arms control agreement between Russia and the US. Yet it expires in February 2026. If there is no follow-on agreement, it would be the first time in over 50 years that we are without substantive, verifiable limits on the world's two largest nuclear arsenals.

In the current context, it is all the more urgent that we advance risk reduction measures, such as improved communication, predictability and restraint.

For its part, the Conference on Disarmament has not produced any agreement since the Chemical Weapons Convention and the Comprehensive Nuclear-Test-Ban Treaty in the 1990s. As a consensus body, it is deadlocked. Pakistan has consistently blocked negotiations on a Fissile Material Cut-Off Treaty – a key element of nuclear disarmament.

The most recent Review Conference of the Nuclear Non-proliferation Treaty concluded without adoption of a consensus outcome document. Although we are deeply disappointed by Russia's breaking of consensus, a large majority of parties worked against the backdrop of a difficult international security environment to lay the groundwork to advance treaty implementation.

At the International Atomic Energy Agency General Conference in September, Russia and China acted in contrast to the "Vienna Spirit" by drawing out discussions and stalling on the adoption of what are normally resolutions agreed to by consensus.

Russia's brazen disinformation campaign remains a significant challenge.

While Russia deflects questions about attempted assassinations with Soviet-designed Novichoks and uses its veto to shield the Assad regime in Syria from consequences for its use of chemical weapons, it falsely alleges that Ukraine is preparing to use chemical weapons.

Russia has also made baseless accusations of US and Ukrainian biological warfare efforts, obfuscating Russia's own noncompliance with the Biological Weapons Convention.

Space is not immune to the geopolitical challenges here on Earth. Once seen as a domain accessible only to a privileged few, it is now contested, congested, and competitive, with more private and state actors operating in space than ever before. We need to find ways to keep space secure and sustainable for the long-term, as a domain free from conflict.

Across these and other multilateral regimes, it is clear that the consensus-based system is under increasing challenge.

Consensus is not a synonym for a *de facto* veto. But it is being used in this way by those with ill intentions to halt any efforts towards disarmament.

If we are to overcome this, we have to work with different coalitions, and find ways to cooperate on the basis of our shared concerns and interests, even if we do not always agree on the modalities. This means keeping lines of communication open, including with those that may be less likeminded.

I will stop there. We look forward to your participation.

Opening Remarks

JENNIFER ALLEN SIMONS, C.M., PH.D., LL.D.

Founder and President

The Simons Foundation Canada



Good Morning,

It is a pleasure to be here, participating again, in the annual Graduate Research Awards seminar, a programme in which the Department of Global Affairs and The Simons Foundation have partnered for twenty years.

I would like to thank Vanessa Wiley of the Global Affairs, and particularly, Elaine Hynes, from The Simons Foundation Canada for their excellent organization and management of, what I believe is, a unique partnership programme.

Disarmament education is an essential requirement in the modern world. Yet there are few educational initiatives in schools and universities for research and education on the negative effects of weapons – from handguns to nuclear weapons to 21st century weaponry - essential education to counter one of the most lucrative of all businesses.

Weapon development has gone far beyond the needs of national and international security. Each new development is followed by its counter – spiralling upward to a catastrophic destruction potential.

So, I welcome, and congratulate you - the recipients of the Graduate Research Awards; and I commend you for your specialization in the issues of nuclear disarmament, space security, Russia-NATO relations and biological weapons. I hope that you will continue to focus on these and pursue career paths in *academia*, the foreign service, politics or the NGO world in civil society.

These presentations with suggestions on how Canada can move forward come at a pivotal moment for nuclear disarmament, NATO-Russia relations - and with the Covid pandemic - biological weapons.

One distressing outcome of Russia's invasion – as well as the immense destruction of a country and its peoples - is increasing acceptance of nuclear weapons for global security and the heightened risk of nuclear use and nuclear war. Finland and Sweden have abandoned their neutral status and hastened to shelter under NATO's nuclear umbrella – expanding nuclear-sharing arrangements – and a potential violation of Article 1 and Article 2 of the NPT.

Russia's threat to use nuclear weapons if hindered in its invasion of Ukraine - a non-nuclear-weapon state - also undermines the NPT and bolsters the legitimate security concerns of non-nuclear weapons states which conclude that nuclear weapons are necessary for their security. South Korea is now seeking US nuclear weapons based on its soil, and considering acquisition of its own nuclear weapons. North Korea - perhaps in response to South Korea, - formally announced its status as a nuclear weapon state. Japan, because of its support for Ukraine, is now threatened by Russia and is reconsidering its military policies including *nuclear* security.

And the Nuclear Weapons States are placing greater reliance on nuclear weapons in their national security policies and, as well, are upgrading and adding to their arsenals of both nuclear and conventional weapons.

The invasion of the Ukraine is creating a boon for the weapons industry and, as well, could drive nuclear escalation and nuclear proliferation which poses greater challenges for nuclear disarmament.

With the nuclear weapons states vertical proliferation of nuclear weapons and the new nuclear-sharing, with North Korea and very possible Iran, nuclear weapons are becoming ubiquitous.

This situation is an extremely negative environment for nuclear disarmament. On the other hand - and I am always the optimist - while Russia's war on the Ukraine is a potential setback, it **could be** a catalytic moment to advance nuclear disarmament – a wake-up call to the fallacy of nuclear deterrence policy and practice, and **could** spur action on nuclear disarmament.

The failure of the 2022 NPT Review Conference - though blamed on Russia - was already determined in the extremely weak Final Document because of the refusal by the Nuclear Weapons States and their allies - of which Canada is one- to support any movement on Article VI, the third pillar upholding the NPT.

The TPNW - the Treaty on the Prohibition of Nuclear Weapons's - Entry-into-Force and First Meeting of the Treaty's States Parties received an acknowledgement **only** that these had taken place. The complementarity of the TPNW was rejected; as was its legitimate claim to be a crucial component of Article VI.

In light of the failure of the NPT, **Rahim Ali's** research on nuclear disarmament and his suggestion for a path forward for Canada to focus on India and Pakistan - non-NPT nuclear weapons states and adversaries, - is compelling as a relevant component of Canada's new Indo-Pacific strategy. This avenue could provide Canada with an opportunity in peace-making and peace-building with the goal of lowering the threshold of war and a potential nuclear exchange between Pakistan and India.

Marie-Christine Pare's– analysis of the pros and cons of Draft Article 5 Agreement between NATO and Russia is a welcome contribution to the NATO-Russia relations issue. And hopefully, with a positive outcome of Russia's war on Ukraine, further negotiations between NATO and Russia will take place.

As Jean-Samuel Houle points out, in relation to the SALT and START Treaties, dialogue between Russia and the US continued during major crises and the “agreed reduction of the New START were completed amid rising international tensions.” According to the latest information discussions are to resume between Russia and the US on resumption of inspections under START that were suspended in August. ¹ The Russia -NATO Agreement though - because Russia argues that it is fighting a war against NATO – may be further down the line and on hold until peace is restored.

Jean-Samuel Houle's suggestion that Canada work with like-minded countries on preserving space for peaceful use is a welcome contribution because in the past Canada was active in outer space issues and a strong proponent for the prevention of an arms race in space but Canada seems to have dropped away

¹ And on November 10, the Biden administration announced that it will restart nuclear arms control talks with Russia, even as tensions spike over the latter's war in Ukraine, coupled with the threat of Moscow using nuclear weapons.

The talks are expected to take place in Cairo in the near future, current and former U.S. officials said, and represent the first move by both sides to revive their mutual arms control agenda since U.S. President Joe Biden first [halted](#) dialogue after Russia launched its invasion of Ukraine in February.

² . So Jean-Samuel Houle’s recommendation that Canada invest in space situational awareness knowledge and participate in the “creation of a world-wide ecosystem of situational awareness capability is opportune; and Canada should be encouraged to return to its more active approach in preventing an arms race in outer space.

The issue of the weakness of the Biological Weapons Convention – lack of transparency and verification and lack of Universality - is an important contribution to the weapons of mass destruction disarmament agenda and certainly germane.

Mohammad Rezaul Karim’s research on the emerging threat of Biological Weapons – the lack of transparency and verification - and suggestions for strengthening the Treaty in order to combat the Biological Weapons threat is timely. The Corona Virus epidemic, as of last week, has claimed the lives of six million, six hundred and twenty-six thousand and four hundred and eighty-one deaths and currently, some six hundred and forty-three million two hundred and twenty-thousand confirmed cases.³ Though it is now accepted that the virus originated in a wet market there was much concern that it escaped from perhaps, a weapons research laboratory - bringing into focus the dangers of biological weapons and warfare.

As far as disarmament goes, progress on biological weapons prevention appears the most likely to progress at this time. Nuclear disarmament, rapport between NATO and Russia, and prevention of the weaponization of space seem, for the moment, entirely out of the picture. However, it is essential that this forward-thinking research continues as we move from the brink of incredible destruction of the world order to restoration of the mechanisms for global peace which have served us well since the birth of the United Nations.

My hope is that relations between Russia and the West are not destroyed, that discussions will continue at military and diplomatic level but as it now stands the war will not end until Russia withdraws completely from Ukraine. When this occurs it is difficult to know what the world political situation will be. We will have to retain our hope for disarmament initiatives – particularly nuclear because we are on the cusp of apocalyptic warfare.

I congratulate you again and wish you every success in your contributions to a better, peaceful world.

Thank you.

² [Paul Meyer (2019)]*In an earlier era, Canada was noted for its constructive diplomacy on outer space and was a vocal champion of the goal of the non-weaponization of outer space.*

³ Coronavirus Death Toll

6,626,481 people have died so far from the coronavirus COVID-19 outbreak as of November 21, 2022, 18:44 GMT.

There are currently [643,219,101 confirmed cases](#) in [228 countries and territories](#). The [fatality rate is still being assessed](#).

Graduate Research Award Presentation 1

Topic: *Recent developments in the space industry have contributed to widening geopolitical divides between Western ally nations and Eastern space actors, to the point where many security experts fear that space could become a new domain of modern warfare. What steps internationally and domestically can be taken by Canada to exert leadership in preventing the proliferation of hostilities in space and inspire greater cooperation between rivalrous space actors? Are there lessons or examples might we learn from past policies, treaties, or practices that have worked to promote peace in other domains here on Earth.*

JEAN-SAMUEL HOULE

Master of Arts in Public and International Affairs
University of Ottawa

Jean-Samuel Houle est un étudiant à la maîtrise en Affaires publiques et internationales à l'Université d'Ottawa qui s'intéresse aux questions de sécurité internationale et plus particulièrement aux questions géopolitiques et sécuritaires dans l'espace extra-atmosphérique. Il est détenteur d'un Baccalauréat en Relations internationales et droit international de l'Université du Québec à Montréal depuis 2021.



TRANSPARENCY LESSONS FROM STRATEGIC NUCLEAR ARMS CONTROL AND CANADIAN SPACE NEUTRALITY

Introduction

In the increasingly crowded and contested space, international actors distrustful of each other's intentions could engage in arms races with the inevitable consequence of endangering the functionality of modern societies. Some states and organizations have already declared space as either a "warfighting domain"¹ or an "operational domain"².

Although successful cooperation regimes exist in specific geographic areas such as Antarctica, and until recently in the Arctic, the present challenge must be addressed in larger existential terms. Strategic nuclear arms control is the most relevant domain to find lessons for cooperation since a war in space, much like a nuclear war, cannot be won and therefore shall never be fought. Thus, this essay will examine successes and draw lessons from the strategic nuclear arms control regime and in particular, the New START treaty.

Cooperation in space will require trust that can be attained by legally binding transparency measures. Domestically, investing in Canada's situational awareness capabilities will improve transparency in space and foster cooperation. Ultimately, to show historic leadership and to promote peace, Canada needs to innovate and establish new norms. Working with other like-minded countries, Canada should declare itself "space neutral" and work to create a "space taboo"³.

Lessons from strategic nuclear arms control

During and after the cold war, multiple treaties were crafted between the U.S and the USSR, and later Russia, to reduce world nuclear armaments. The fundamental aims of those treaties were to square their strategic competition, manage risks and to limit costs associated with arms racing. Once enough warheads and strategic launchers were in place to ensure mutually assured destruction (MAD), it was unnecessary and costly to accumulate and maintain excess nuclear forces. Strategic nuclear arms control is not immune to geopolitical stress, however dialogue historically continued even after major world crisis. Strategic Arms Limitation Talks II (SALT II), the successor treaty of SALT I, was never ratified by the US in response to the Soviet invasion of Afghanistan (Nuclear Threat Initiative). Negotiations between the parties nonetheless resumed in 1982 and led to the Strategic Offensive Arms Reduction Treaty, the START treaty, entering into force in 1994 (Nuclear Threat Initiative). The verification mechanism of START was highly intrusive (Nuclear Threat Initiative), but it was modified when the treaty expired in 2009 and was replaced by the New START in 2011. The New START's provisions are relevant to the current conversation on limiting competition in space since it is the only nuclear arms control treaty still in force today.

The New START essentially established new reductions in strategic arsenals⁴ and a new reciprocal verification infrastructure. For verification purposes, the New START requires that nuclear warheads be individually accounted for in deployed launch systems (Bugos)⁵. This information is shared every six months and stored in a database. To ensure the veracity of the shared information, the treaty provides for in situ inspections. Type 1 inspections are performed in person to verify the composition of a random deployed launching system. Information on the location of non-deployed system is also shared and type 2 inspections permit visits to those sites. Each year, parties are allowed to perform ten type 1 visits, and eight type 2 visits (Wolf 16-17). The short timeframe between the notification of a visit and the actual visit incentivises parties to adhere to their obligation and share the true information about the composition of their forces (Wolf 16-17). Another benefit is that military commanders have access to adversarial installations and can inform their headquarters on the state of the other's mobilisation. This "authorised intrusion" helps build confidence and trust that the legally binding reciprocal obligations are being met by all parties. It reduces uncertainty related to the opaque nature of strategic nuclear arsenals. Other mechanisms are used to verify obligations, such as national technical means of verification (NTM), which includes satellite imagery (Wolf 15). Another feature of the treaty is its consultation body that meets twice per year to discuss issues regarding the implementation of the treaty (Wolf 27).

The agreed reductions of the New START were completed in 2018 amidst rising international tensions. The treaty provides crucial lessons in building cooperation and transparency in the space domain and how to square an arms race or manage an ongoing competition. Even though nuclear weapons are strategic weapons, legally binding transparency mechanisms (institutionalized consultations, access to infrastructures and exchange of data) were discussed and agreed upon. Transparency enables trust, which in turn can lead to more cooperation. As these lessons need to be applied to space, the next section will focus on the principal tool to achieve transparency in space and how Canada can participate in the effort today.

Transparency measures for space cooperation

Transparency in space requires an understanding of where the objects are, what they are doing and where they are going. States and companies are developing capabilities to track current and future positions of satellites and orbital debris which is called space situational awareness (SSA). The United States has “the largest space surveillance system in the world and provides basic SSA data free of charge to all users” (Borrowitz 1). According to Borrowitz, SSA data sharing has two benefits which are A. improved capabilities and B. shared understanding (2). The creation and publication of large amounts of data increases transparency and reduces suspicions among actors. To manage a possible arms race in space and to foster cooperation on those issues, it will be important to work toward the standardization and institutionalization of SSA data collectors. Any credible proposed draft treaty on space arms control will require a legally binding transparency mechanism that includes objective data sharing. Moreover, as in the case of the New Start, in situ visits to SSA installations on Earth could help build trust toward the data collected.

Canada should participate in the creation of a world-wide ecosystem of situational awareness capabilities. The government should develop its capacity to track objects in space, without relying on the means of other actors, which implies developing digital and physical infrastructures. Furthermore, the government should actively support private actors, independent organizations, and universities that are developing SSA capacities in Canada. Data collecting is crucial, but it is equally important to be able to analyse the information (Borrowitz, 2). This involves investing in applied algorithms, computational power, and human capital. In other words, Canada must invest in the whole knowhow of SSA. Transparency cannot be based on the capacities of a sole actor, who in this instance is the United States. For rival international powers, sources of data would need to be more diverse to accept their objectivity⁶. The credibility of an actor’s SSA data on the world stage could be tied to their status of neutral space power, hence the following proposition for Canada.

Leadership and innovation in norms creation: “space neutrality”

In April 2021, the United Nations General Assembly report “Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviours”, compiled from propositions of more than 20 countries and the EU, summarized views of what constitutes threats and security risks in space, actions from other states that could be labelled irresponsible and threatening, and a commanding set of ideas on how to reduce possible tensions in space (“Reducing Space Threats”).

Canada can exert leadership on those matters and facilitate the effective adoption of the multiple norms, guidelines, and actions proposed to date if it innovates and declares itself “space neutral”. Neutrality is a powerful stance that gives Canada moral credibility to discuss matters of space security and exert timely leadership on the issue. To ensure credibility in declaring neutrality, the declaration must be tied by an official document conceptualizing the idea. In the aforementioned report, the section on “Characterization of actions and activities that could be considered responsible, irresponsible, threatening” offers Canada a basis on which to declare itself “neutral in space”. The document states, in its 18th and 19th paragraphs, 12 examples of responsible behavior and 29 examples of irresponsible behavior on which a neutral state would respectively engage in and refrain from (“Reducing Space Threats” 8-10)⁷.

The neutrality manifesto should state, and work to ensure, that no Canadian equipment will be used in the event of a confrontation that is conducted in space or against space related assets⁸. The document additionally needs to denounce the characterization of space as a new war fighting domain in including another innovation: the declaration that “a war in space can never be won and must never be fought”. This declaration mimics the Reagan-Gorbachev principle⁹ on nuclear war that has been restated by the permanent members of the Security council in early 2022 (“Joint Statement”). It helps create a taboo about a possible “space war” in which everyone would possibly lose access to space, not unlike a nuclear war in which nobody wins¹⁰.

Canada should work with like-minded countries¹¹ on the document to give it numerical force. Canada could encourage other states to self-declare as “space neutral” and create a template of norms that must be followed to be declared fully “space neutral”. An office responsible for accountability would be established in Canada or elsewhere with the primary objective of reporting on the effective neutrality of the states that declared themselves as such.

Conclusion

Strategic nuclear arms control offers a good analogy to manage a potential arms race in space. Even though nuclear weapons are highly strategic and by nature very secretive, states have found a way to cooperate even in the event of major geopolitical developments. In drawing lessons from the New START, legally binding transparency mechanism should be pursued in treaty negotiations on space arms control. Furthermore, to ensure credible transparency measures in the space domain, SSA capacities from multiple independent sources will be vital. In this regard, Canada should develop a full spectrum of space situational awareness capacity, from building physical installations to forming new human capital. Finally, in innovating to create the standard for space neutrality, Canada will exert historic leadership and will reduce the potential for conflicts in space.

¹ *The United States declared space a warfighting domain (McCall). Australia is creating a space command in partnership with the U.S. Space Force (Vinall). France has also developed a space command (McCall).*

² *NATO has declared space an operational domain in 2019 (NATO).*

³ *“Space taboo” draws a link to the “Nuclear taboo” concept developed by Nina Tinnnewald. She argues that social norms surrounding nuclear weapons have made their use almost unthinkable.*

⁴ *The number of deployed nuclear warheads is limited to 1550 and strategic launchers (intercontinental ballistic missiles, submarine-launched ballistic missiles, and strategic bombers) are limited to 700 deployed systems. Another one hundred non deployed systems are allowed (New START Treaty).*

⁵ *As it was in the case of the START Treaty, a single warhead remains attributed to strategic bombers (Bugos).*

⁶ *It was noted that some SSA providers sometimes disagree on the position of some objects due to different software and monitoring equipment (Borrowitz 2).*

⁷ *They notably include banning anti-satellite weapons tests (18. e), information sharing on rendezvous operations (18. b), and committing to not place weapons in outer space (18. f).*

⁸ *This does not mean that Canadian assets in space couldn't be used as part of NATO interoperability in the case of a legitimate self-defence situation on Earth.*

⁹ *It was first declared in 1985 after both leaders met in person, that “a nuclear war cannot be won and must never be fought.”*

¹⁰ It is important to mention that some states, the U.S. for example, rely on their military satellites to assess possible nuclear attacks. In its 2018 Nuclear Posture Review, the U.S. declared it would consider using nuclear weapons if an attack crippled “warning and attack assessment capabilities” (21). The possibility for a “war in space” to escalate to nuclear war is high in that regard.

¹¹ The European Union proposed an “international code of conduct”. EU member states are potential early adherents to the “neutral status”.

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Graduate Research Award Presentation 2

Topic: *The COVID-19 pandemic has led the UN Secretary General and other world leaders to warn that the pandemic's impacts may increase threats posed by biological weapons development and use by states or terrorists. How can heightened awareness of catastrophic biological risks be leveraged to overcome the 20-year impasse within the Biological and Toxin Weapons Convention (BTWC), and what practicable and accomplishable proposals could be put forward to strengthen the BTWC in the near, medium and long terms?*

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THE EMERGING THREAT OF BIOLOGICAL WEAPONS:

HANDLE WITH SUBSTANTIAL AND APPROPRIATE CARE BY STRENGTHENING BTWC

1 INTRODUCTION

According to UN Secretary-General António Guterres, the vulnerabilities and lack of preparedness exposed by the COVID 19 pandemic provided a window into how a bioterrorist attack may unfold and escalate the threats to international peace and security on a large scale [1]. He warned the UN Security Council that non-state actors could obtain access to virulent strains that can wreak havoc on societies worldwide [2]. The truth is that this pandemic has demonstrated the futility of biological warfare, a strategy that depends on weapons based on viruses, bacteria, and other pathogens to inflict havoc not only on the target but also beyond any lines of defense. The Biological Weapons Convention (BWC), or Biological and Toxin Weapons Convention (BTWC), is a disarmament convention that prohibits the development, manufacturing, acquisition, transfer, stockpiling, and use of biological and toxin weapons [3]. Since the BTWC came into effect, under the backdrop of the Cold War, the restriction on biological weapons has been unanimously supported, with 183 signee nations to date [3]. The convention is invaluable as a diplomatic forum for discussions on biological weapons disarmament and arms control. However, despite the inclusions of most countries of the world in BTWC, it does not have an enforcement mechanism [4]. The absence of an effectively centralized control obligated individual nations to take responsibility for monitoring any suspicious activity by other member states using their own resources, resulting in a chaotic and confusing situation. The BTWC also lacks both a means for verifying states'

compliance with the treaty and a distinct international institution to assist in its efficient implementation [5].

As the biodefense, biosafety, and biosecurity are all intricately interconnected, the convention should include provisions to ensure that all stakeholders have a consistent definition and common understanding of these terms in the current situation. Along with this common understanding, incorporating the convention's verification mechanism will strengthen and effective the BTWC. These will also provide definite, practical, and achievable goals to the stakeholders through proper threat awareness, prevention and protection, surveillance and detection, response and recovery.

2 AIM AND OBJECTIVE

This article will highlight BTWC's key limitations in dealing with the emerging threat of biological weapons from both state and non-state actors, focus on challenges, and present pragmatic and implementable proposals to strengthen BTWC in the short, medium, and long term.

3 KEY LIMITATIONS OF BTWC

BTWC treaty prohibits only the development, manufacture, and stockpiling of biological weapons (including poisons) for purposes and quantities not justified for peaceful reasons [6]. However, it does not have any mandate to ban the employment of biological weapons in combat, as the Geneva Protocol of 1925 does. The BTWC does not have a method to check compliance for political considerations. Unlike the Chemical Weapons Convention [7], it does not contain the obligation for on-site challenge inspections to settle doubts regarding noncompliance and visits to randomly selected facilities [5]. Although diplomats are currently negotiating the Biological Weapons Convention's enforcement mechanisms, a draft protocol to the BTWC developed by a United Nations ad hoc group that includes verification or transparency elements has yet to be seen [4]. Finally, BTWC's fundamental weakness is the lack of authority to use force against suspected non-state or terrorist organizations or entities [3].

4 CHALLENGES IN THE CURRENT SCENARIO OF COVID 19 PANDEMIC

The rapid rate of discoveries in the life sciences and bioinformatics and the confluence of these advances with developments in artificial intelligence, additive manufacturing, and robotics are frequently brought up in discussions concerning the biological weapons threat. Some of these shifts are due not only to the rapid advancement of the underlying science and technology, but also to the rapid global dissemination of the knowledge, materials, and equipment that are at the heart of the life sciences enterprise, as well as the changing socio-political environment around the world [5].

Despite the fact that the COVID-19 pandemic's agents are uncontrolled and indiscriminate, some important places have warned that COVID-19 might encourage terrorists to utilize indiscriminate pathogens [1]. Although the threat posed by state entities owning biological weapons today—with the exception of North Korea—appears to have significantly lessened, COVID 19's effect may stimulate some states to consider it clandestinely in order to gain an advantage during conflict. Furthermore, assessing the threat posed by non-state actors is more difficult due to the large number and diversified objectives of many of these organizations. Despite the possibility that international terrorist groups investigated the

creation of biological weapons both before and after this pandemic, there is little information on current and ongoing terrorist interest, making it difficult to assess their plan, justification, and method of use for such weapons.

5 STRENGTHEN BTWC TO OVERCOME THE CHALLENGES

To strengthen the existing BTWC, a comprehensive approach starting from the micro to macro level will be required. It will have to be supported by protocols of compliance by the member states. Considering the development of the countries, short term, midterm or long-term goals may vary. Suggestive responses to changing dynamics may be largely on threat awareness, prevention and protection, surveillance and detection, and response and recovery.

5.1 Short Term Goal

BTWC's short-term goal should be to get all stakeholders on the same platform in terms of understanding. By defining these terms, member states would be better able to understand one another since different interpretations of biodefense, biosafety, and biosecurity indicate various approaches to policymaking among stakeholders [7]. BTWC should include detailed recommendations on these terms down to the smallest levels, ensuring that BTWC's objectives are met immediately.

5.2 Mid Term Goal

BTWC's intermediary goal should be to raise proper threat awareness among stakeholders. Threat encapsulates the interaction of capacity and intent with the goal of eliciting a negative response. There are designated institutions for biodefense at the federal, state, and local levels within government agencies in the United States, bio-threat assessments are also conducted in the United Kingdom, in Netherlands, and Austria under the broader umbrella of CBRN-related terrorism and emerging national security risks [8]. However, awareness-related activities appear to be less common in other regions of the world. BTWC may support the establishment of foundations for threat assessment regimes, such as the Australia Group [9], in which member nations' involvement is required. This will not only provide a platform for assessing bio-threats, but it will also standardize trade laws in order to limit the proliferation of biological weapons-related technology and know-how.

Enforcement processes with verification or transparency elements should also be included in the midterm target. It should no longer be a gentleman's agreement at the convention [4]. The procedures should include provisions for governments to request an investigation to ascertain the facts surrounding suspected noncompliance by another country or group inside a country. At the same time, site visits would be chosen at random by the BTWC's inspection team.

5.3 Long Term Goal

BTWC's long-term objective is to establish a global surveillance and detection network. Surveillance and detection are strategies for obtaining the earliest possible situational awareness for biological phenomena[10]. These also allow for the safeguarding of vital public health infrastructure on a national and local level. BTWC should have policies in place to deal with the following incidents:

- Accidental pathogen release in the lab: There is always the possibility of pathogen escape in the lab. Given the ease with which diseases may escape laboratories the apparent controllability of escape occurrences is not assured [11]. BTWC should create a network to gather intelligence and handle the problem.
- Government control over bio research facilities: Governments have minimal control over biotechnology innovation; the market is mostly driven by private entities [12]. Furthermore, vaccine research and development (i.e., for peaceful reasons) and biological weapons research and development are based on the same technology, and biological agents may be manufactured in facilities that are considerably smaller and less visible than in the past. BTWC should form a partnership with a government regulatory agency to seize control of the situation.
- Dual-use research of concern (DURC): Biotechnological research is frequently driven by peaceful goals such as better understanding infectious disease characteristics and producing vaccinations to safeguard human health. Nonetheless, this study is sometimes referred to as "concerning dual-use research"[13]. This puts a conflict between scientific research independence and a government's national security objective. BTWC should employ stringent monitoring to enforce gain-of-function (GOF) over them.
- Security oversight within do-it-yourself (DIY) biology: DIY biology communities and initiatives have a downside in the light of biosecurity, however. The "traditional" safety oversight associated with the biosafety regulatory framework is missing [4]. Additionally, commercial DNA synthesis is readily available and controlled poorly. As the interest in biotechnology is growing, the number of (DIY) laboratories handling biological agents is increasing, which consequently increases the risk of security [14]. The BTWC should put in place a structure through the relevant government institutions to monitor and hold accountable these laboratories.
- Information dissemination (voluntary and involuntary, such as theft and espionage): Breakthrough discoveries in biotechnology are frequently produced through collective collaboration rather than solo efforts [15]. It is necessary for BTWC to understand and develop a mechanism for the intricate technicalities of such discoveries in vaccination and drug development.
- Equipment and pathogen proliferation: While limitations on the purchasing of pathogens have apparently been strengthened, many pathogens have become widely traded. Microbiologists and veterinarians are renowned for keeping large quantities of pathogen samples that are inadequately inventoried and safeguarded. Smallpox may be found in a laboratory anywhere in the globe, according to experts [16]. To enforce inventory regulations on the signatory nations and gain access to such inventories, BTWC might be required to devise a mechanism [15].
- Response and recovery: BTWC should also have provisions for response and recovery. Minimum standards should be defined for states to take into account the worst-case scenario of a prospective bio strike. The focus should be on reaction planning, mass casualty reduction, decontamination, and other medical countermeasures (MCM).

6 CONCLUSIONS

The international community is still unable to adequately address the potential threat of biological weapon posed by both state-sponsored and non-state actors. Its verification mechanisms must change, especially when non-state actors pose a threat to the successful execution of policies. The convention, however, provides a helpful venue for the worldwide community to address a wide variety of subjects relating to biological weapons, and non-governmental groups have actively participated in recent

convention sessions. Emerging technologies, without a doubt, give previously imagined new capabilities for manipulating biological systems, and these skills are spreading internationally and becoming increasingly accessible to less trained users. Nevertheless, the outcome is primarily determined by the actors' willingness or capacity to abuse these revolutionary new skills. The BTWC's future importance depends on its ability to establish a strong foothold in the larger global security framework in order to combat the biological weapons threat, particularly from nonstate actors. Since the COVID 19 pandemic has the potential to inspire a wide spectrum of non-state and terrorist organizations, BTWC must widen its operational emphasis and pay close attention to the paper's immediate, medium, and long-term goals.

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Graduate Research Award Presentation 3

Topic: *Article VI of the NPT commits NPT recognized nuclear-weapon states to “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” Progress on implementing Article VI and on advancing nuclear disarmament in general has stalled. Some of the reasons for this that have been suggested include the following:*

-Lack of trust among states

-Poor relations among states

-Deteriorating international security environment

-Divergent views on how to maintain international security such as those that adhere to nuclear deterrence as the ultimate guarantee of security and those that believe in a total prohibition of nuclear weapons such as what is called for under the Treaty on the Prohibition of Nuclear Weapons (TPNW).

What are the most important issues inhibiting progress on Article VI of the NPT on nuclear disarmament and what can Canada do to help achieve nuclear disarmament?

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NUCLEAR DISARMAMENT

IMPEDIMENTS AND SOLUTIONS TO ACHIEVING A NUCLEAR WEAPONS-FREE WORLD

Introduction

The international community appears to be at the cusp of either a new world war or a new cold war. Russia’s invasion of Ukraine has exacerbated fears that nuclear weapons may be used for the first time since the Second World War, with Russian President Vladimir Putin having warned that Western intervention in Ukraine would lead to “consequences you have never seen” (Boffey).

Nuclear weapons have presented moral, ethical, and legal challenges since they were first conceived. The use of nuclear weapons in Hiroshima and Nagasaki resulted in horrific death, destruction and trauma that continues to affect lives today. In its 1996 advisory opinion, the International Court of Justice found that the threat or use of nuclear weapons “would generally be contrary to the rules of international law applicable in armed conflict” (International Court of Justice); but it did not establish definitively whether the threat or use of nuclear weapons would be unlawful for self-defence. The international community has long sought to eliminate nuclear weapons from existence. The 1968 Nuclear Non-Proliferation Treaty (NPT) is the key instrument that underpins the global nuclear non-proliferation and disarmament regime. Under the NPT, nuclear-weapon states (NWS) committed to work towards eliminating their nuclear weapons, while non-nuclear-weapon states (NNWS) agreed to forgo acquiring them. This bargain has been vital in shaping the international security climate since the NPT’s inception (Meyer, “Overcoming the NPT’s ‘Institutional Deficit’”). But while the world has made considerable progress on the non-proliferation front, disarmament efforts have stalled for decades. The sincerity of the NWS towards disarmament has in turn been questioned.

This paper explores nuclear disarmament: Part I examines the most important issues inhibiting progress on Article VI of the NPT on nuclear disarmament; and Part II suggests what Canada can do to help achieve nuclear disarmament. The paper argues that the international security climate is the primary impediment to progress. It further argues that Canada should engage with India and Pakistan to enhance security conditions in the Indian Subcontinent and that Canada could also link the issue of climate change with nuclear weapons to encourage NWS to disarm.

Part I: Impediments to Disarmament: The Need for Nukes

The international security climate is the overarching issue inhibiting progress on Article VI of the NPT on nuclear disarmament. There is a lack of trust and good relations among key states amid deteriorating global security conditions. Instead, the world has been increasingly shaped by geo-strategic politics. Nuclear weapon states have been reluctant to decrease their nuclear arsenal considering heightened security concerns. Proliferation threats are increasing, with North Korea’s nuclear program representing a particularly dangerous development. Against this background, the norm against the threat or use of nuclear weapons has been eroded.

Despite the commitment under Article VI of the NPT to disarm, NWS have been modernizing and investing in their nuclear arsenals. In 2021, the United Kingdom announced it will increase its nuclear arsenal by 40% due to risks posed by other NWS, emerging NWS, and new technological threats (“Britain to Expand Nuclear Warhead Stockpile”). Russia has been in an arms race with the US over the last decade (Eckel). It has new weapons such as nuclear-powered torpedoes and does not appear receptive to talks about nuclear weapons. China is not a military adversary of NATO, but the country too is increasing its nuclear arsenal. The country has been active in changing norms at international fora and appears uninterested in arms control. Efforts to reduce the salience of nuclear weapons in military doctrines and in nuclear alliances has therefore receded.

The slow pace at disarmament has been the impetus for Treaty on the Prohibition of Nuclear Weapons (TPNW), which seeks to make nuclear weapons use and possession illegal. The treaty has created more friction between NWS and NNWS. For proponents, the TPNW represents a realization of Article IV of the NPT by filling the legal gap that would require NWS to disarm. Nuclear weapons states and their allies have taken a hardline approach towards TPNW supporters. The growing schism between these two sides risks weakening the NPT regime when the NPT should be strengthened (Manulak). Failing to address the frustration among NNWS and maintaining a hardline position runs the risk of further exacerbating the global security situation and could lead to a crisis if NNWS follow North Korea’s lead and leave the NPT (Schoofs and Pezzarossi).

Part II: The Path Forward for Canada

Canada has adopted a step-by-step approach to nuclear disarmament. This approach prioritizes beginning negotiations on the Fissile Material Cut-Off Treaty (FMCT) that would ultimately cease nuclear weapons production. Canada also aims to bring the Comprehensive Nuclear-Test-Ban Treaty, which would ban all nuclear tests, into force. But the step-by-step approach has made little progress on disarmament. Progress on both the Fissile Material Cut-Off Treaty and the Comprehensive Nuclear-Test-Ban Treaty has been stagnant for decades (Meyer, “Permanence”, 222).

Engaging with the Indian Subcontinent

To realize disarmament, the international community must focus on the two regions where global security concerns are most pronounced: Europe and Asia (“CNS Summer School: Challenges and Priorities for the 2021 NPT Review Conference”, 53:31). Europe is currently a difficult region to direct disarmament efforts. The Russian invasion of Ukraine and Putin’s threat to use nuclear weapons makes it difficult for Canada to make the argument for disarmament there. Even before the invasion, NATO insisted that American nuclear forces in Europe were vital to the security of Europe.

The Indian Subcontinent, however, is a good place to focus disarmament efforts and one area Canada has invested relatively little effort. The disputed region of Kashmir has been the source of two wars between India and Pakistan, and it is often feared to be a catalyst for the world’s first nuclear war. Tensions were high as recently as February 2019, when 40 Indian soldiers died in a suicide attack in Kashmir. India blamed Pakistan-based militant groups and launched airstrikes in Pakistani territory (“Kashmir: Why India and Pakistan Fight over It”). Working to improve relations between the two countries would reduce hostility between them and improve the security condition in the region—the key impediment to realizing disarmament.

Canada could especially work with Pakistan to address the latter’s concerns vis-à-vis the US-India nuclear relationship. Pakistan has been blocking attempts to begin negotiation on the FMCT at the Conference of Disarmament. Canada has proposed taking negotiations on the FMCT out of the Conference of Disarmament, but China and Russia are opposed to this⁴ (Mukhatzhanova, et al). Rather than convincing Russia and China, it would be easier to work with Pakistan. Engaging with Pakistan would be concordant with Canada’s role as a bridgebuilder. It can do this in conjunction with the UK, which has made efforts in recent years to improve its relationship with both India and Pakistan (Pokraka). Canada could leverage its strong relations with the US, which in turn has good relations with India. These negotiations may also extend to include China,³ with whom Pakistan maintains very strong relations, and who is ultimately believed to be the source of Pakistan’s hindrance of the FMCT.

Pakistan’s position vis-à-vis the FMCT appears open to change, as policymakers in the country were once willing for the country sign onto the FMCT (Mian and Nayyar). Pakistan has strong fears about India’s nuclear arsenal, with which it seeks parity. Canada could play a role in addressing these concerns. Canada is home to one of the largest Pakistani diasporas, and Canadians of Pakistani origin sit in Parliament. There are strong people-to-people links between the two countries that can be utilized (“Canada - Pakistan Relations”). The two countries share historical ties, reflected in their membership in the Commonwealth. Canada can use existing multilateral fora to engage directly with Pakistan. It can offer to host meetings and creating a working group and invite China, Pakistan, India, and the United States. Addressing Pakistan’s concerns and seeing the FCMT come into force would be step forward towards realizing nuclear disarmament—concordant with Canada’s official policy of a step-by-step approach to disarmament. It does not involve a radical change to Canada’s current policy, nor will it put it at odds with NATO.

Issue-Linkage in the Post-COVID Era

Linking the issues of nuclear weapons with climate change is further approach that Canada can take to advance nuclear disarmament and serve as a basis for rapprochement. The Government of Canada has been focused on advancing efforts to combat climate change. Scientists have warned that even a small nuclear war could have catastrophic effects on climate (Bendix).

The COVID-19 pandemic has changed the international security paradigm by highlighting the importance of threats that transcend borders and affect people indiscriminately. A nuclear war constitutes such a threat. In doing so, the pandemic has had a positive effect on the security paradigm (“The Tenth NPT Review Conference: Challenges and Opportunities”, 37:10). It has reminded states of the importance of human security, not just state security. Canada can leverage this realization on the importance of human security to encourage NWS to do more to realize disarmament. Canada’s support for human security is not without precedence. After 1994, it was a leading country in focusing on human security concerns in its foreign policy (“Human Development Report 2019”). Canada first promoted human security in the United Nations Security Council (Webster). Furthermore, Canada has acted before against security concerns of its allies. It was a critical player in efforts that resulted in the Ottawa Treaty to ban landmines, despite strong objection from the US and other countries, who saw landmines as important tools in their security policies.

Conclusion

Nuclear disarmament has long been an objective of the international community. A major impediment to realizing disarmament is the global security condition. A forceful push towards 5 disarmament by NNWS is unlikely to be met with success especially given global security concerns. Canada should prioritize engagement where impact can likely be made. India and Pakistan are not parties to the NPT and a war between them is often feared to result in a nuclear war. In addition to promoting wider rapprochement among states, enhancing the relationship between these two states would not only increase regional security conditions but also enhance Canada’s international standing. In working specifically with Pakistan on the FMCT, Canada would be laying another brick on the sunlit path to a world free of nuclear weapons.

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Graduate Research Award Presentation 4

Topic: *The Russian Federation published on December 17, 2021, a [draft agreement on measures to ensure the security of The Russian Federation and member States of the North Atlantic Treaty Organization](#). Please provide an analysis regarding the implications (positive and or negative) of its article V related to arms control to each Party of this agreement (Russia and NATO member states).*

MARIE-CHRISTINE PARÉ

Affaires publiques et internationales – Maîtrise
Université d'Ottawa

Marie-Christine Paré est étudiante à l'École supérieure d'affaires publiques et internationale de l'Université d'Ottawa. Elle a obtenu son baccalauréat en Affaires publiques et relations internationales à l'Université Laval en 2020. Elle s'intéresse principalement aux questions de sécurité nationale, à la politique étrangère canadienne et aux droits de la personne. Son sujet de mémoire de maîtrise porte sur le commerce des armes entre le Canada et l'Arabie Saoudite.



Marie-Christine a été très impliquée dans la communauté universitaire à l'Université Laval. À titre de coordonnatrice au sein de l'association étudiante environnementale *Univert Laval*, elle a travaillé avec l'administration de l'Université pour mettre fin à la vente de bouteilles d'eau jetables et d'autres contenants à usage unique sur le campus. Marie-Christine a travaillé au ministère de la Sécurité publique du Québec comme opératrice des télécommunications au Centre des opérations gouvernementales de 2019 à 2021. En 2021, Marie-Christine a été superviseure pour le Recensement de la population canadienne à Statistique Canada. En 2022, Marie-Christine a été analyste subalterne au sein de la Direction générale des politiques de la sécurité nationale à Sécurité publique Canada.

ANALYSE DES CONSÉQUENCES DE L'ARTICLE CINQ DU PROJET D'ACCORD ENTRE LA RUSSIE ET L'OTAN

Introduction

Le 17 décembre 2021, la Fédération de Russie a présenté une proposition d'un projet d'accord sur des mesures visant à assurer la sécurité de la Fédération de Russie ainsi que des États membres de l'OTAN. Parmi ces mesures se trouve, à son article cinq, une clause d'engagement de chaque partie à l'accord à ne pas déployer des missiles terrestres à courte portée et à portée intermédiaire dans les zones lui permettant d'atteindre les territoires de l'autre partie. Une telle disposition aurait trois conséquences positives autant pour la Russie que pour les pays membres de l'OTAN, c'est-à-dire qu'elle permettrait de relancer le contrôle des armements entre les deux parties, elle servirait de garantie de limitation de l'expansion des missiles terrestres, puis elle éviterait qu'une escalade des tensions entre les deux parties ne mène à une guerre nucléaire. Une telle clause aurait également d'autres conséquences propres à chaque partie. Pour l'OTAN, l'article cinq du projet d'accord aurait principalement pour effet de compromettre la stratégie des États-Unis d'assurer la sécurité de l'Europe et elle affaiblirait la capacité de l'OTAN à menacer les installations de commandement russe. Pour la Russie, l'article cinq du projet d'accord lui permettrait quand même de déployer ses missiles hypersoniques puisque cet article ne restreindrait pas l'utilisation de ce type de missiles. Une telle disposition limiterait toutefois la capacité de la Russie à exercer une diplomatie coercitive face à l'OTAN puisque cette disposition l'empêcherait d'utiliser ses missiles Iskander stratégiquement stationnés à Kaliningrad.

Conséquences pour les deux parties

Tout d'abord, l'article cinq du projet d'accord entre la Russie et l'OTAN serait un moyen de relancer le contrôle des armements entre les deux parties étant donné l'absence d'un traité existant portant sur le contrôle des missiles terrestres à courte portée et à portée intermédiaire. Bien que le *Traité sur les forces nucléaires à portée intermédiaire* entre la Russie et les États-Unis ait initialement permis l'élimination des missiles balistiques de théâtre d'une portée comprise entre 500 et 5 500 kilomètres, les États-Unis se sont retirés de ce traité en 2019. Par conséquent, cela a ouvert la porte à la réintroduction de missiles balistiques de théâtre sur le champ de bataille (Deveraux, 2022). Les États-Unis ont d'ailleurs justifié leur retrait en raison d'une série de violations du Traité par les Russes, mais tout en reconnaissant que ces nouveaux missiles leur seraient avantageux pour assurer la sécurité de l'Europe (Deveraux, 2022). En ce qui concerne le Traité NEW START, bien qu'il ait été prolongé jusqu'au 5 février 2026, il ne s'attaque pas directement au déploiement des missiles terrestres à courte portée et à portée intermédiaire, mais il limite plutôt le déploiement de missiles balistiques intercontinentaux par les États-Unis et par la Russie (U.S. Department of State, 2022). Ainsi, l'article cinq du projet d'accord comblerait, d'une part, l'absence de contrôle des armements entre les États-Unis et la Russie, et assurerait, d'autre part, un contrôle élargi des armements puisque cette clause s'appliquerait à tous les pays membres de l'OTAN et à la Russie plutôt que seulement aux États-Unis et à la Russie.

De plus, une clause de non-déploiement de missiles terrestres à courte portée et à portée intermédiaire servirait de garantie de limitation de l'expansion des missiles terrestres. Sans l'existence d'une telle clause, les deux parties pourraient facilement augmenter leur effectif militaire respectif sur leurs territoires, ce qui pourrait mener à une course à l'armement. En effet, cela s'explique par le faible prix des missiles terrestres par rapport aux missiles maritimes ou aériens de portée similaires qui deviennent beaucoup plus attrayants dans un contexte de guerre (Weibin, 2019). Par conséquent, l'article cinq du projet d'accord servirait de garantie de non-prolifération des missiles terrestres à courte portée et à portée intermédiaire, qui autrement, pourraient être utilisés davantage.

Aussi, dans l'hypothèse où il surviendrait un affrontement direct entre les deux parties, l'article cinq du projet d'accord permettrait certainement d'éviter qu'une escalade des tensions mène à une guerre nucléaire entre l'OTAN et la Russie. En effet, sans une telle clause, il existerait une incertitude quant à la décision de l'autre partie de déployer ou non des missiles à courte portée et à portée intermédiaire dotés d'ogives nucléaires plutôt que d'ogives conventionnelles. Étant donné que la distinction entre des ogives nucléaires et des ogives conventionnelles peut être difficile à établir dans un contexte de guerre, l'État défensif pourrait confondre une attaque de missiles conventionnels avec une attaque nucléaire et répliquer avec sa propre arme nucléaire, ce qui engendrerait des conséquences désastreuses (Weibin, 2019). Ainsi, la clause de non-déploiement de missiles terrestres à courte portée et à portée intermédiaire permettrait d'éviter que des frappes conventionnelles entre la Russie et l'OTAN ne dégénèrent en guerre nucléaire.

Conséquences pour l'OTAN

Mises à part les conséquences communes aux deux parties engendrées par une clause de non-déploiement des missiles terrestres prévu par l'article cinq du projet d'accord, une telle disposition minerait également la stratégie des États-Unis de développer de nouveaux missiles balistiques de théâtre pour assurer la sécurité de l'Europe face à la Russie. Dès le retrait des États-Unis du *Traité sur les forces nucléaires à portée intermédiaire*, le ministère de la Défense des États-Unis a demandé près de 100 millions de dollars dans son budget de 2020 pour développer trois types de missiles à portée intermédiaire (Reif, 2019, p. 26). La stratégie des États-Unis de développer des missiles balistiques de théâtre dans le but éventuel de les déployer sur les territoires des pays membres de l'OTAN et sur les territoires de ses

alliés viserait à pousser la Russie et la Chine à investir dans des mesures de résilience plus coûteuses plutôt que de consacrer leurs ressources à des capacités de projection de puissance (Deveraux, 2022). Par conséquent, l'article cinq du projet d'accord restreindrait certainement la stratégie américaine de défense de l'Europe face à une Russie résurgente.

Qui plus est, l'interdiction de déployer des missiles balistiques de théâtre viendrait affaiblir les capacités de l'OTAN de menacer les installations de commandement russe ainsi que de limiter la capacité d'action militaire de la Russie (Deveraux, 2022). Cela s'explique par le fait que le déploiement de missiles américains conventionnels à lanceur terrestre à portée intermédiaire en Europe pourrait renforcer la position concurrentielle des États-Unis et, ultimement, renforcer la dissuasion qui est la pierre angulaire de la stratégie mondiale des États-Unis (Reif, 2019, p. 26). Or, l'interdiction de déployer des missiles terrestres de portée intermédiaire dans des zones permettant d'atteindre le territoire de la Russie prévu par l'article cinq du projet d'accord aurait pour conséquence de limiter la capacité de l'OTAN de dissuader l'agression russe dans les pays baltes et en Pologne notamment.

Conséquences pour la Russie

La première conséquence d'une telle clause pour la Russie serait qu'elle ne pourrait pas déployer ses missiles Iskander stationnés à Kaliningrad, soit dans l'enclave russe située entre la Pologne et la Lituanie. Ces missiles à vecteur nucléaire ont une portée jusqu'à 500 km environ et peuvent donc facilement atteindre les pays baltes, la Pologne, la Suède et même l'Allemagne, posant ainsi une menace à la sécurité de plusieurs pays membres de l'OTAN (Center for Strategic and International Studies, 2018). Le déploiement des missiles Iskander sur ce territoire stratégique permet donc à la Russie d'exercer une diplomatie coercitive (Center for Strategic and International Studies, 2021). Par conséquent, l'article cinq du projet d'accord viendrait restreindre la capacité de la Russie d'exercer une diplomatie coercitive face à l'OTAN.

Une deuxième conséquence, plutôt positive pour la Russie, serait que l'article cinq du projet d'accord ne l'empêcherait pas de déployer ses missiles hypersoniques qu'elle a développés puisque cet article ne limite pas l'utilisation de ce type de missiles, mais restreint seulement les missiles balistiques terrestres à courte portée et à portée intermédiaire. Par conséquent, la Russie détiendrait un avantage militaire puisqu'aucun pays membre de l'OTAN ne possède de tels missiles et puisque ceux-ci sont plus difficiles à détecter (Saylor, 2022, p. 13). Par conséquent, l'article cinq du projet d'accord ne viendrait pas restreindre la capacité militaire de la Russie d'envoyer des missiles par les airs puisqu'il contrôle seulement le déploiement des missiles balistiques terrestres.

Conclusion

En somme, la disposition de l'article cinq du projet d'accord entre la Russie et l'OTAN, qui interdit le déploiement de missiles terrestres à courte portée et à portée intermédiaire dans les zones permettant d'atteindre les territoires de l'autre partie, engendrerait trois implications positives pour les deux parties à l'accord, en plus d'engendrer des répercussions propres à chaque partie. Une première implication commune de cette disposition est qu'elle permettrait d'assurer un certain contrôle des armements entre les deux parties, qui est d'autant plus nécessaire depuis le retrait des États-Unis du *Traité sur les forces nucléaires à portée intermédiaire* en 2019. Une deuxième répercussion d'une telle clause serait qu'elle agirait comme une forme de garantie de non-prolifération des missiles terrestres à courte portée et à portée intermédiaire qui pourraient autrement être davantage employés en période de guerre en raison de leur prix moins élevé. Une troisième conséquence est qu'en cas de conflit direct entre la Russie et l'OTAN, une telle disposition assurerait qu'une escalade des tensions entre les deux parties ne dégénère pas en guerre nucléaire. L'article cinq du projet d'accord engendrerait également deux conséquences spécifiques pour l'OTAN. D'une part, cette disposition restreindrait la stratégie américaine de développer des missiles balistiques de théâtre dans le but de les déployer dans les territoires des pays membres de

l'OTAN afin de forcer la Russie à investir dans des mesures de résilience plus coûteuses. D'autre part, cette clause d'interdiction de déploiement de missiles terrestres aurait pour effet de limiter la capacité de l'OTAN de menacer la capacité d'action militaire de la Russie et limiterait, ultimement, la capacité de l'OTAN à dissuader une agression russe dans les pays baltes ou en Pologne. L'article cinq du projet d'accord produirait également deux conséquences spécifiques pour la Russie. Une première implication de cette disposition serait qu'elle empêcherait la Russie de recourir à ses missiles Iskander stationnés à Kaliningrad, ce qui limiterait sa capacité coercitive face à l'OTAN étant donné que ces missiles constituent une forte menace à la sécurité de l'Europe en raison de leur emplacement stratégique. L'article cinq du projet d'accord engendrerait une autre conséquence plutôt positive pour la Russie, c'est-à-dire qu'elle ne prohiberait pas le déploiement de ses missiles hypersoniques, ce qui lui octroyait un avantage militaire puisque l'OTAN ne détient pas ce type de missile. En fin de compte, une telle disposition visant à encadrer le contrôle des armements ne pourrait qu'avoir des effets positifs globaux puisqu'elle permettrait d'assurer la non-prolifération des missiles terrestres à courte portée et à portée intermédiaire et, ultimement, permettrait d'éviter des conséquences désastreuses.

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Expert Review Panel

Jean-Christophe Boucher is a research director at the Centre Interuniversitaire de recherche sur les relations internationales du Québec et du Canada and Assistant Professor and Discipline and Honours Advisor with the Political Science at MacEwan University in Edmonton, Canada. He completed a BA in History from Ottawa University, a master's degree in Philosophy from the University of Montreal, and received his PhD in Political Science at Université Laval in December 2011. His main research interests and publications have focused on peace and security studies, Canadian foreign and defence policies, quantitative analysis and methodology.

Ekaterina Piskunova is a Professor in the Political Science department at Université de Montréal.

Jessica West is a Senior Researcher at Project Ploughshares and leads research to advance peace and security in outer space through a humanitarian focus on space for all and benefits to people and the planet. As part of this work, she interacts regularly with key United Nations bodies tasked with space security and space safety issues. Related research interests include approaches to peace and disarmament rooted in humanitarian protection and gender perspectives, as well as the impact of new technologies on space security such as cyber connectivity and artificial intelligence.

Jessica holds a PhD in global governance from the Balsillie School of International Affairs where her work focused on linkages between resilience, national security, and public health. She currently holds roles as a Research Fellow at the Kindred Credit Union Centre for Peace Advancement, and a Senior Fellow at the Centre for International Governance Innovation (CIGI).

Annex I



Global Affairs
Canada

Affaires mondiales
Canada



***Graduate Research Awards for Disarmament,
Arms Control and Non-Proliferation
(2021 – 2022)***

**30 November 2022, 10h00 to 12h30
Robertson Room, 125 Sussex Drive**

10:00	Welcome, opening remarks	Angelica Liao-Moroz Executive Director, Non-Proliferation, Disarmament and Space
10:05	Remarks	Dr. Jennifer Allen Simons President, The Simons Foundation Canada
10:20	Presentation of Research, Q&A	Marie-Christine Paré Masters Student, University of Ottawa Jean-Samuel Houle Masters Student, University of Ottawa Mohammad Rezaul Karim PhD Candidate, University of Alberta Rahim Ali MA/JD Student, University of Ottawa and Carleton University
11:45	Expert Briefing, Q&A	Cesar Jaramillo Executive Director, Project Ploughshares
12:15	Award Presentation, Closing Remarks	Dr. Jennifer Allen Simons and Angelica Liao-Moroz
13:00	Lunch	



**Les Bourses de recherche aux cycles supérieurs
pour le désarmement, le contrôle des
armements et la non-prolifération 2021-2022**

**30 novembre 2022, 10h00 - 12h30
Salle Robertson, 125 promenade Sussex**

10:00	Mot de bienvenue, remarques d'ouverture	Angelica Liao-Moroz Directrice exécutive, Direction de la non-prolifération, du désarmement et de l'espace
10:05	<u>Discours</u>	Dr. Jennifer Allen Simons Présidente, The Simons Foundation Canada
10:20	Présentation des résultats de la recherche, session de questions-réponses	Marie-Christine Paré Étudiante de maîtrise, Université d'Ottawa Jean-Samuel Houle Étudiant de maîtrise, Université d'Ottawa Mohammad Rezaul Karim Candidat au doctorat, Université de l'Alberta Rahim Ali Étudiant de maîtrise/JD, Université d'Ottawa et Université Carleton
11:45	Breffage d'expert, session de Q-R	Cesar Jaramillo Directeur <u>exécutif</u> , Project <u>Ploughshares</u>
12:15	Remise des prix, remarques de clôture	Dr. Jennifer Allen Simons Angelica Liao-Moroz
13:00	Dîner	

Annex II

2021-2022 Graduate Research Awards for Disarmament, Arms Control and Non-Proliferation

[\(message en français\)](#)

\$5,000

Competition Details

Graduate Research Awards for Disarmament, Arms Control and Non-Proliferation are offered by The Simons Foundation Canada and Global Affairs Canada.

A total of **four awards of CAD \$5,000** are available to Canadian Master's and/or Doctoral candidates to support the independent research and writing of an academic paper responding to a specific Non-Proliferation, Arms Control and Disarmament (NACD) topic. Awards also include domestic travel support to Ottawa where successful candidates will present their completed papers during a special event at Global Affairs Canada Headquarters planned for Fall 2022.

Deadline for applications:	March 28, 2022
Selection of four award recipients:	April 29, 2022
Presentations at GAC Headquarters in Ottawa:	Fall 2022 (to be confirmed)

HOW TO APPLY:

Complete applications should be sent to Elaine Hynes at The Simons Foundation Canada by email to: ehynes@thesimonsfoundation.ca by the close of business (PDT) on March 28, 2022.

Your application must include:

- Your resume, including proof of Canadian citizenship or official status in Canada.
- A **complete, official** transcript of your grades (including undergrad). Electronic copies of **official** transcripts are acceptable.
- An academic paper (approx. 1,500 words, MLA format) responding to one of the specific Non-Proliferation, Arms Control and Disarmament topics shown below

ELIGIBILITY:

The competition is open to Canadian citizens and Canadian permanent residents/landed immigrants currently enrolled in a graduate programme. Graduate students studying outside Canada are eligible to apply but please note that funding to cover the cost of successful applicants' travel to Ottawa for the event at Global Affairs Canada is limited to domestic travel within Canada (or the equivalent).

In order to expand the community of Canadian scholars working on non-proliferation, arms control and disarmament (NACD) issues, employees of Global Affairs Canada, and previous recipients of a Graduate Research Award are not eligible.

SELECTION PROCESS:

Applications will be reviewed by an Expert Review Panel made up of three experts and academics working in this field who will recommend four award winners for final approval by representatives of The Simons Foundation Canada and ISROP. Successful candidates will be notified on April 29, 2022.

PRESENTATIONS AT GLOBAL AFFAIRS CANADA HEADQUARTERS:

Award winners will present their papers at a special event hosted by Global Affairs Canada at the Lester B. Pearson building in Ottawa in Fall 2022 (to be confirmed), and will be asked to produce a PowerPoint deck for their presentation. The cash awards will be issued at the GRA event in Ottawa and a report, including the papers presented, will be published online by The Simons Foundation Canada. ***Please note that attendance at the GRA event in Ottawa is a mandatory requirement of the award.*** Approved domestic travel, accommodation and meal expenses will be provided by The Simons Foundation Canada.

TOPICS for 2021-2022

Master's and Doctoral candidates may choose to address one of the following subjects:

1. Recent developments in the space industry have contributed to widening geopolitical divides between Western ally nations and Eastern space actors, to the point where many security experts fear that space could become a new domain of modern warfare. What steps internationally and domestically can be taken by Canada to exert leadership in preventing the proliferation of hostilities in space and inspire greater cooperation between rivalrous space actors? Are there lessons or examples might we learn from past policies, treaties, or practices that have worked to promote peace in other domains here on Earth.
2. The COVID-19 pandemic has led the UN Secretary General and other world leaders to warn that the pandemic's impacts may increase threats posed by biological weapons development and use by states or terrorists. How can heightened awareness of catastrophic biological risks be leveraged to overcome the 20-year impasse within the Biological and Toxin Weapons Convention (BTWC), and what practicable and accomplishable proposals could be put forward to strengthen the BTWC in the near, medium and long terms?
3. Article VI of the NPT commits NPT recognized nuclear-weapon states to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control." Progress on implementing Article VI and on advancing nuclear disarmament in general has stalled. Some of the reasons for this that have been suggested include the following:

- Lack of trust among states
- Poor relations among states
- Deteriorating international security environment
- Divergent views on how to maintain international security such as those that adhere to nuclear deterrence as the ultimate guarantee of security and those that believe in a total prohibition of nuclear weapons such as what is called for under the Treaty on the Prohibition of Nuclear Weapons (TPNW).

What are the most important issues inhibiting progress on Article VI of the NPT on nuclear disarmament and what can Canada do to help achieve nuclear disarmament?

4. Please comment on the following statement: "Disruptive technologies pose both risks and opportunities to nuclear decision-making" ([European Leadership Network](#)) by potentially increasing or mitigating the risks of nuclear use, deliberately or inadvertently.

5. The Russian Federation published on December 17, 2021, a [draft agreement](#) on measures to ensure the security of The Russian Federation and member States of the North Atlantic Treaty Organization. Please provide an analysis regarding the implications (positive and or negative) of its article V related to arms control to each Party of this agreement (Russia and NATO member states).

For more information, please contact Elaine Hynes at The Simons Foundation Canada by email to ehynes@thesimonsfoundation.ca or at telephone number 778-782-7779.

The primary objective of the Graduate Research Awards is to enhance Canadian graduate level scholarship on disarmament, arms control and non-proliferation issues.

Disclaimer: The views and positions expressed through the GRA programme are intended to stimulate academic debates as part of an annual youth education partnership jointly organized by The Simons Foundation and ISROP; the themes do not necessarily reflect the views of The Simons Foundation Canada, Global Affairs Canada or the Government of Canada.

Les bourses de recherche des cycles supérieurs 2021-2022 pour le désarmement, le contrôle des armements et la non-prolifération

5 000 \$

Informations détaillées relatives au concours

Les bourses de recherche des cycles supérieurs pour le désarmement, le contrôle des armements et la non-prolifération sont offertes par la Simons Foundation Canada et d’Affaires mondiales Canada (AMC).

En tout, **quatre bourses de 5 000 \$ CA** seront remises à des étudiant.es canadien.nes à la maîtrise ou au doctorat afin d’appuyer les recherches indépendantes et la rédaction d’un essai universitaire portant sur un sujet précis lié à la non-prolifération, au contrôle des armements et au désarmement. Les bourses prévoient également un soutien pour un voyage à Ottawa au cours duquel les lauréats présenteront leur travail achevé lors d’un événement spécial à Affaires mondiales Canada qui se tiendra à l’automne 2022 (date à confirmer).

Date limite de présentation des candidatures : 28 mars 2022
Sélection des quatre boursiers : 29 avril 2022
Présentations à l’administration centrale d’AMC à Ottawa : Automne 2022 (Date à confirmer)

COMMENT PRÉSENTER SA CANDIDATURE

Les demandes complètes doivent être acheminées par courriel à Elaine Hynes de la Simons Foundation à ehynes@thesimonsfoundation.ca avant la fermeture des bureaux (HNP) le 15 mars 2021.

Votre demande doit comprendre ce qui suit :

- Votre curriculum vitae, y compris une preuve de citoyenneté.
- Un relevé de notes **complet et officiel** (des copies électroniques des relevés officiels sont acceptées).
- Un essai universitaire (approximativement 1 500 mots, format MLA) portant sur l’un des sujets proposés ci-dessous concernant la non-prolifération, le contrôle des armements et le désarmement.

ADMISSIBILITÉ

Ce concours est ouvert aux citoyens canadiens et aux résidents permanents du Canada actuellement inscrits à un programme d’études supérieures. Les étudiants de cycle supérieur qui poursuivent leurs études à l’étranger peuvent présenter une demande, mais les frais couverts pour le voyage à Ottawa permettant aux lauréats de prendre part à l’événement organisé par Affaires mondiales Canada seront limités aux déplacements à l’intérieur du Canada (ou l’équivalent).

Afin d’accroître le nombre de chercheurs canadiens travaillant dans le domaine de la non-prolifération, du contrôle des armements et du désarmement, les employés d’Affaires mondiales Canada et les personnes ayant déjà obtenu la Bourse de recherche des cycles supérieurs ne sont pas admissibles.

PROCESSUS DE SÉLECTION

Un groupe d’experts formé de trois spécialistes et universitaires travaillant dans le domaine examinera les demandes et recommandera quatre candidats. Des représentants de la Simons Foundation et du PRISI devront approuver les recommandations. Les candidats sélectionnés seront informés le 29 avril 2022.

PRÉSENTATIONS À L'ADMINISTRATION CENTRALE D'AFFAIRES MONDIALES CANADA

Les lauréats présenteront leur travail lors d'un événement spécial organisé par Affaires mondiales Canada à l'édifice Lester B. Pearson à Ottawa à l'automne 2022 (à confirmer). Ils seront invités à présenter leur recherche à l'aide d'une présentation en format PowerPoint. Les bourses seront remises lors de l'événement à Ottawa et un rapport comprenant notamment les travaux présentés sera publié en ligne par la Simons Foundation. ***La présence à l'événement visant à décerner les bourses de recherche des cycles supérieurs qui se tiendra à Ottawa est obligatoire.*** Les frais de déplacements au Canada, ainsi que les coûts pour l'hébergement et les repas qui ont été approuvés seront remboursés par la Simons Foundation.

SUJETS pour 2021-2022

Les candidat.es à la maîtrise et au doctorat peuvent choisir un des sujets suivants :

1. Les récents développements de l'industrie spatiale ont contribué à creuser les clivages géopolitiques entre les pays alliés occidentaux et les acteurs orientaux de l'espace, au point que de nombreux experts en sécurité craignent que l'espace ne devienne un nouveau domaine de la guerre moderne. Quelles mesures le Canada peut-il prendre à l'échelle internationale et nationale pour exercer un leadership dans la prévention de la prolifération des hostilités dans l'espace et inspirer une plus grande coopération entre les acteurs rivaux de l'espace ? Y a-t-il des leçons ou des exemples que nous pourrions tirer des politiques, traités ou pratiques passés qui ont contribué à promouvoir la paix dans d'autres domaines ici sur Terre ?
2. La pandémie de COVID-19 a conduit le Secrétaire général des Nations Unies et d'autres dirigeants mondiaux à avertir que les impacts de la pandémie pourraient accroître les menaces posées par le développement et l'utilisation d'armes biologiques par des États ou des terroristes. Comment tirer parti d'une sensibilisation accrue aux risques biologiques catastrophiques pour surmonter l'impasse de 20 ans au sein de la Convention sur les armes biologiques et à toxines (BTWC), et quelles propositions pratiques et réalisables pourraient être avancées pour renforcer la BTWC à court, moyen et long termes ?
3. L'article VI du TNP engage les États dotés d'armes nucléaires reconnus par le TNP à "poursuivre de bonne foi des négociations sur des mesures efficaces relatives à la cessation de la course aux armements nucléaires à une date rapprochée et au désarmement nucléaire, et sur un traité de désarmement général et complet sous un contrôle international strict et efficace". Les progrès dans la mise en œuvre de l'article VI et dans la promotion du désarmement nucléaire en général sont au point mort. Certaines des raisons à cela qui ont été suggérées sont les suivantes :

- Manque de confiance entre les États
- Mauvaises relations entre les États
- Détérioration de l'environnement sécuritaire international
- Des points de vue divergents sur la manière de maintenir la sécurité internationale tels que ceux qui adhèrent à la dissuasion nucléaire comme garantie ultime de sécurité et ceux qui croient en une interdiction totale des armes nucléaires comme ce qui est demandé en vertu du Traité sur l'interdiction des armes nucléaires (TPNW).

Quels sont les problèmes les plus importants qui entravent les progrès sur l'article VI du TNP sur le désarmement nucléaire et que peut faire le Canada pour aider à réaliser le désarmement nucléaire

4. Veuillez commenter la déclaration suivante : « Les technologies dites de rupture présentent à la fois des risques et des opportunités pour la prise de décision nucléaire » ([European Leadership Network](#)) en augmentant ou en atténuant potentiellement les risques liés à l'utilisation du nucléaire, délibérément ou par inadvertance.
5. La Fédération de Russie a publié le 17 décembre 2021 un [projet d'accord](#) sur des mesures visant à assurer la sécurité de la Fédération de Russie et des États membres de l'Organisation du Traité de l'Atlantique Nord. Veuillez fournir une analyse des implications (positives et/ou négatives) de son article V relatif au contrôle des armements pour chaque partie à cet accord (Russie et États membres de l'OTAN).

Pour obtenir de plus amples renseignements, veuillez communiquer avec Elaine Hynes de la Simons Foundation par courriel à ehynes@thesimonsfoundation.ca ou par téléphone au 778-782-7779.

Les bourses de recherche des cycles supérieurs visent d'abord et avant tout à accroître le financement accordé au cycle supérieur pour les recherches en matière de désarmement, de contrôle des armements et de non-prolifération.

Avis de non-responsabilité : Les opinions et les positions exprimées dans le cadre du programme de bourses de recherche des cycles supérieurs visent à stimuler les débats universitaires grâce à un partenariat annuel pour l'éducation des jeunes conclu entre la Simons Foundation et le PRISI; les thèmes ne reflètent pas forcément les opinions de la Simons Foundation, d'Affaires mondiales Canada ou du gouvernement du Canada.