EVENT REPORT

October 4, 2007

Marc Garneau Calls for a Canadian Space Policy

INTRODUCTION

October 4, 2007, marked the 50th anniversary of the launch of the world's first artificial satellite — Sputnik — into outer space. The Soviet Union's launch of Sputnik prompted the United States to significantly increase its spending on space research and ushered in the space era. Since that first launch, the use of outer space has been of inestimable value to the international community. But new risks are emerging that threaten the peaceful use of outer space.

Dr. Garneau is among a growing number of Canadians advocating the adoption of a national space policy that clearly articulates Canada's commitment to the peaceful uses of space and strengthening of the Outer Space Treaty

Given these risks, and the opportunity afforded by this important anniversary, the Rideau Institute, with the support of Secure World Foundation, was pleased to collaborate with Canada's first astronaut Dr. Marc Garneau, on October 4, to draw much-needed attention to the urgent need to ensure space security.

Dr. Garneau is among a growing number of Canadians advocating the adoption of a national space policy that clearly articulates Canada's commitment to the peaceful uses of space and strengthening of the Outer Space Treaty. Meanwhile, the Rideau Institute has been working with Members of Parliament toward establishing a parliamentary network on space, in order to create awareness among Canada's decision makers and build momentum for a Canadian space policy.

CANADA'S FIRST ASTRONAUT: BIOGRAPHY IN BRIEF

As an astronaut Dr. Garneau participated in three space flights, his first, as Payload Specialist on the Shuttle Mission 41-G in October 1984. He has logged over 677 hours in space. Dr. Marc Garneau served as president of the Canadian Space Agency from 2001 to 2005. He is currently Chancellor of Carleton University.

Dr. Garneau was promoted to the Companion of the Order of Canada in 2003, having been appointed as an Officer in 1984. Dr. Garneau has received many recognitions and awards over the course of his exceptional career, including: Doctor of Science, honoris causa, by York University (2002) and the University of Lethbridge (2001); recipient of the Prix Montfort en sciences (2003); Golden Jubilee Medal of Her Majesty Queen Elizabeth II (2002); and the NASA Exceptional Service Medal (1997).

Canada's first astronaut, Dr. Marc Garneau

GARNEAU ON PARLIAMENT HILL

Rideau Institute Director Steven Staples moderated a press conference on Parliament Hill with Dr. Marc Garneau and the International Space University's Dr. Lucy Stojak, calling for a re-invigorated and coherent national Canadian policy on space. The Press conference is posted at: **www.youtube.com/user/rideauinstitute**.

Anthony Salloum, Dr. Lucy Stojak, Dr. Marc Garneau and Steven Staples

Following the press conference, which was broadcast live on national television, a luncheon briefing by Captain Garneau was hosted by the Rideau Institute, Hull-Aylmer MP Marcel Proulx and Richmond Hill MP the Hon. Bryon Wilfert. The briefing was attended by the New Democratic Party's Foreign Affairs critic Paul Dewar, Senator Lucy Pépin, and staff from dozens of MP offices, including the Leader of the Official Opposition. In total, over 60 parliamentarians and staff attended.

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During the day's events, Dr. Garneau was interviewed by CTV, CBC and Global TV, in addition to several print media. He also participated in the *Globe and Mail's* online discussion. You can read the discussion at: **www.theglobeandmail.com/servlet/story/RTGAM.20071002.wgarneaudiscussion0310/BNStory/specialComment/home**. Dr. Garneau's editorial entitled "The Race Is Still On" appeared in the *Ottawa Citizen* on October 4 (Appendix I).

CANADA, A LEADER IN OUTER SPACE

Canada has had a proud history in space. With the launch of Alouette 1 in 1962, Canada became the third country to place a satellite in space, after the Soviet Union and the United States. Then, in 1972, Canada launched Anik A1, the world's first national communications satellite. This satellite connected remote communities in Canada's North to the rest of the world. Canada continues to launch satellites into outer space in order to monitor its territory and conduct scientific research, such as the tracking of ozone levels in the high atmosphere.

THREATS TO THE PEACEFUL USE OF SPACE

Ensuring the peaceful use of space is critical to Canada, given the country's reliance on satellites to provide communication to remote communities, manage rich natural resources, monitor climate change and protect national sovereignty, particularly in the North. However, recent events, including the January 11, 2007 anti-satellite (ASAT) weapons test by China and aggressive United States missile defence initiatives, are raising alarm bells about the possibility of a new arms race in space.

Most countries with space-launch capabilities have signed the 1967 Outer Space Treaty (OST), which emphasizes the peaceful use of outer space. However, technological advances have rendered the OST inadequate to the job of ensuring the peaceful use of outer space. Although the OST bans the stationing of Weapons of Mass Destruction (WMDs) in outer space, the treaty does not prohibit the launching of ballistic missiles armed with WMD warheads through space, or the use of anti-satellite (ASAT) weapons.

Concerned about U.S. missile defence plans and its 2006 space policy, the nuclear ambitions of North Korea and Iran, and China's recent ASAT test, many countries support the negotiation of additional outer space

agreements. Given that emerging nations such as China, India and Brazil are undertaking ambitious space programs, it is urgent that we take action now to prevent the weaponization of space.

Dr. Garneau is firmly against the weaponization of space and believes it would be a great tragedy if we turned space into a war zone: *"Canada should be against the weaponization of space and should not participate in ballistic missile defence… There are two reasons: it is destabilizing and technically it's not feasible. Finally, the premise of a missile coming from a rogue nation is not plausible."*

RECOMMENDED ACTION FOR CANADA

As China, India and Brazil develop space programs to compete with the United States and Russia, space is becoming more crowded with satellites. In this context, it is increasingly important to adopt policies that ensure space is used properly. However, Canada's space program has been ad hoc and has lacked leadership from the top. "Canada has a choice at this point: continue on its present course, or decide to focus greater leadership and vision on the use and exploration of space. Regardless of what we do, we need to realize that other nations are clearly focusing on the potential that space has to offer," said Garneau.

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According to Dr. Garneau, there are several things Canada needs to do, on both the national and international levels. Canada needs to develop a national space policy that goes beyond the Canadian Space Strategy framework approved in February 2005. This national space policy must be developed through a concerted top-down decision-making process that determines why and how space is important to Canada. To develop and maintain such a policy, Dr. Garneau says, an all-party parliamentary network on space should be established. This parliamentary network would also help connect parliamentarians in Canada with their counterparts around the world.

In addition to formulating its own policy, Canada needs to reaffirm its position with respect to the peaceful use of space by the international community. Dr. Garneau believes that through the use of quiet but firm diplomacy, Canada can be instrumental in discouraging the United States' pursuit of anti-missile programs.

Furthermore, given Canada's international reputation for promoting disarmament and space security, Canada is in an excellent position to lead the way in supporting initiatives for the drafting and ratification of a broader international treaty on the prevention of an arms race in outer space (PAROS) and an ASAT weapons ban. The Rideau Institute has been advocating for Canadian leadership on both the PAROS treaty and an ASAT weapons ban.

The time has come for Canada to do more to safeguard the peaceful use of space, including, but not limited to, openly declaring its support for the negotiation of a PAROS treaty. There is no better time to begin to do this than on the 40th anniversary of the Outer Space Treaty. *"Canada ratified that treaty in 1967… and I think it's time for Canada again to be a public and heard voice in the international arena,"* said Dr. Garneau.

FOR MORE INFORMATION: Please refer to The Rideau Institute's Blue Note Briefing Paper *"Increased Threat to Space Underscores Need for New Space Treaty"* and the Rideau Institute's Event Report *"Minimizing the Threat from Space Debris."*

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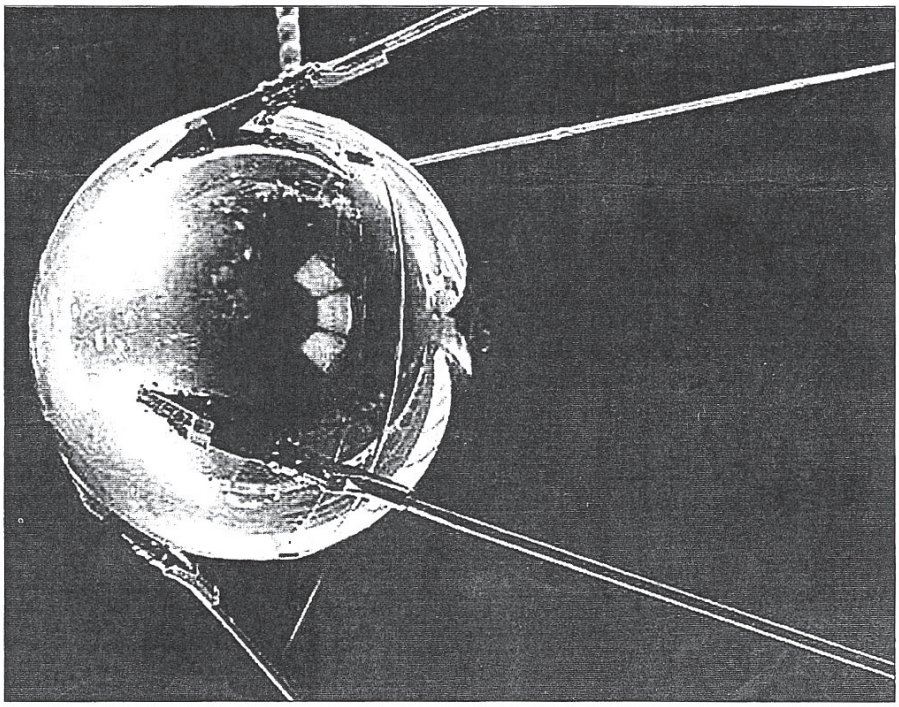
The Rideau Institute on International Affairs is a public policy research, consulting and advocacy group based in Ottawa. It provides independent research, analysis and commentary on public policy issues to decision makers, opinion leaders and the public.

The race is still on

Fifty years ago today, the Soviets launched Sputnik and began the space race. It's time for Canada, the third nation in space, to reclaim its place among the leaders.

MARC GARNEAU



Sputnik, launched Oct. 4, 1957, was concrete proof that space was accessible and could be used for a variety of useful purposes, peaceful or otherwise.

Fifty years ago today, the Soviet Union successfully launched the first artificial satellite into space and caught the world by surprise. Not so much because they had kept it a secret (they hadn't) but because many doubted the Soviets could do it.

The word *Sputnik*, meaning "travel companion," was to become a household word, and its successful launch was to accelerate the Cold War because it made the Soviet threat plausible. The space race was truly under way.

The size of a basketball, the satellite weighed 84 kilograms and emitted radio signals as it orbited Earth every 98 minutes. You could actually see it from the ground with some magnification and if the lighting conditions were right. And of course its famous "beep" became known to everyone.

What was the significance of this historic launch other than to win the Cold War? Clearly, it was concrete proof that space was accessible and could be used for a variety of useful purposes, peaceful or otherwise.

Canada, an interested bystander at the time, not only took note but also took action.

In what is truly a remarkable Canadian story, a young group of Ottawa defence scientists and engineers, led by John Chapman of the Defence Research Telecommunications Establishment, took Canada to space with the launch of *Alouette-1* in 1962. They started from scratch and were completely successful (*Alouette-1* was still working 10 years later when the decision was made to power it down).

Clearly, it was concrete proof that space was accessible and could be used for a variety of useful purposes, peaceful or otherwise.

Thus Canada became the third country in space, after the Soviet Union and the United States. *Alouette's* purpose was to study the ionosphere and its effect on radio communications, and in the process to help understand that spectacular display of energy known as the Northern Lights.

The success of *Alouette-1* was significant not only because it demonstrated that Canada was a technologically mature nation but also because it made the government of Canada aware of the importance of space as a policy tool. That tool was put to use in the late '60s when Canada decided to build its own communication satellite with the objective of linking all Canadians.

The result was *Anik-A1*, launched in 1972, the first national communication satellite. Henceforth, remote communities in Canada's North would be in contact with the rest of the world.

Vast, remotely populated, rich in resources, subject to important climatic changes and determined to affirm its sovereignty over its territory, Canada has very compelling reasons to make use of space. It has done so in remarkable fashion since those early days, such as the launch of *Radarsat-1* in 1995 to monitor Canadian territory and indeed the whole planet, and the launch of *Scisat-1*, a scientific satellite monitoring ozone levels in the high atmosphere. In addition, Canada has developed an impressive export-oriented aerospace sector by developing niche products and services in which it leads the world.

But Canada may be taking its eye off the ball as emerging nations such as China, India and Brazil take on truly ambitious space programs in an effort to join the ranks of the United States, Russia and Europe. Canada has the ability to lead the world in new ventures such as hyperspectral satellites, scientific research on weather in the high atmosphere, and rover vehicles for the Moon and Mars. However, it is not doing so because the budgets are not there and, more to the point, the will to invest more may not be there.

Are there actions that our country should be taking? Absolutely. Is it important for Canada to be seen as an active participant in using and exploring space? I would argue that it is in Canada's self-interest to do so.

This requires leadership and vision, since space has not been and is not currently an election issue, except possibly on the thorny question of Canada's participation in ballistic missile defence.

In addition to formulating a policy aimed at the practical use and exploration of space, Canada needs to reaffirm its position with respect to the peaceful use of space.

As a first step, Canada needs a national space policy. As the former head of the Canadian Space Agency, I was proud that the government of Canada approved the Canadian Space Strategy in February 2005. However, this document is not a national policy for space. At best, it is a framework. National space policy must flow from a concerted top-down decision-making process that determines why and how space is important to Canada. That process has not taken place.

Secondly, in order to develop and maintain such a policy, it would be highly desirable to establish an all-party parliamentary network on space.

Third, in addition to formulating a policy aimed at the practical use and exploration of space, Canada needs to reaffirm its position with respect to the peaceful use of space.

Canada has a choice at this point: continue on its present course, or decide to focus greater leadership and vision on the use and exploration of space. Regardless of what we do, we need to realize that other nations are clearly focusing on the potential that space has to offer. Thirty years from now, what humanity is doing in space will be virtually unrecognizable. We can sit on the sidelines, or we can join the front of the pack.

Capt. **MARC GARNEAU** is a former astronaut and president of the Canadian Space Agency and currently serves as chancellor of Carleton University.

SUBMISSIONS

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