



CASI TORONTO FLYER

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Toronto Branch Membership Newsletter

NEWSLETTER LINKS

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CASI NEWS

UPCOMING CASI EVENTS

Our November Branch meeting, on **Thursday, November 22**, will feature historical and contemporary aviation and space videos. We welcome suggestions/contributions from members for interesting/unusual video material. The evening will start off with pizza so bring your friends and family. Check the [CASI website](#) or [Facebook Events page](#) for more details.



STUDENT BRANCHES

CASI Ryerson Branch's Wine and Cheese Networking Event

All CASI Toronto Branch members are welcome to the event to network with students from Ryerson University, University of Toronto and York University.

Date: November 14, 2012
Time: 6:00 pm - 8:00 pm
Location: 55 Gould Street, Room SCC 115
Please contact casi@ryerson.ca for more information.



CASI and Toronto have been selected to host **IAC 2014**. The 65th International Astronautical Congress will take place **September 26 - October 3, 2014** with the theme "The World Needs Space".



AERO 13, the CASI 60th Aeronautics Conference, will be held in Toronto on **April 30 - May 2, 2013**. More information can be found on the [CASI website](#).

PAST CASI BRANCH EVENTS

The Toronto Branch of CASI was very fortunate to have Remi Gravel from Siemens PLM Software as our Guest Speaker on October 18, 2012. The event took place at the University of Toronto Institute for Aerospace Studies (UTIAS).

In the aerospace sector, Siemens PLM Software technology is used by 80 percent of the top 10 fixed-wing aircraft original equipment manufacturers (OEM's) and 90 percent of the top 20 aerospace engine OEM's. Siemens PLM software is used to improve

productivity, reduce launch cycle time and lower the total ownership cost of aerospace products and services.

Mr. Gravel, who is a Solutions Consultant for Siemens PLM in the Aerospace & Defense sector with 15 years of experience, provided an excellent overview of the software covering the various life cycle stages from initial concept, product development and in service support.

The Toronto Branch of CASI thanks Remi Gravel and Siemens PLM Software for an interesting and memorable presentation.

CASI KNOTS

Attendance at CASI Toronto Branch meetings earns you CASI Knots. These accumulated Knots can be redeemed for a discount on the price of your ticket to the Annual Dinner Meeting in the Spring (this will take the form of a refund at the door after you purchase your tickets online). Take advantage of your membership benefits!

SPREAD THE WORD

Please help us to publicize our Toronto Branch meetings. Share your meeting notice with friends and colleagues, and print a few copies to post around your school or workplace.

CASI TORONTO FLYER

There is a lot of aerospace activity in the GTA and the CASI Toronto Flyer exists to bring local aerospace news to our members. If you have any suggestions or contributions for the Flyer, please contact the Editor, Gillian Clinton, of Clinton Research, and Branch Secretary, at clintonresearch@sympatico.ca or torentobranh@casi.ca

CONTACT US

Contact CASI Toronto Branch Executive with questions, comments or suggestions: torentobranh@casi.ca

Complete contact information for individual Executive members and event information is available on the CASI website (casi.ca/toronto).

Event information is also published on [Facebook](#) (search: "CASI Toronto").

LOCAL NEWS

2012 Canadian Space Summit - Bridging Communities: Unifying the Canadian Space Sector

Taking place **November 14 - 16** at the University of Western Ontario in London, this Summit will provide a unique forum to address relevant issues in Canada's current and future space program.

Apollo 17 astronaut, Harrison Schmitt will be the Distinguished Lecturer on Friday, November 16.

The goal of this conference is to provide a venue for interdisciplinary networking and

promote further connections between the various communities within the Canadian space sector.

Further information and registration are available [here](#).

REQUEST FOR FLIGHT TEST SPACE

The Atlas Human-Powered Helicopter Project is looking for indoor flight testing space with weekend availability from November 2012 through spring 2013.

Designed and built with a student-based team, the goal of the Atlas is to win the historic Sikorsky Prize, which requires a human-powered helicopter to hover for one minute and at one point reach an altitude of 3m. The helicopter is a marvel of efficient engineering and a testament to lightweight design, measuring 160ft across and weighing only 121 lbs.

The team has been testing at an indoor soccer field in Vaughan, but this facility is now only available on weekdays which makes student involvement impossible. The helicopter requires an indoor space roughly 170ft x 170ft unobstructed (i.e. no columns) with 30 ft ceilings, with bare concrete or a hard smooth surface preferred (industrial carpet would be acceptable). Flights will typically be very close to the ground, with minimal translation or drift. Budget is a factor (the team is volunteer-based and sponsor-funded), and spaces that can be either rented cheaply or donated are ideal.

The team has conducted a search in the GTA and largely come up empty-handed so far. Convention

centres in the area are either too expensive (MTCC), too small, or column-obstructed. Indoor sports facilities no longer have weekend availability. Downsview Park has no suitable or available space unfortunately. At this point a large aircraft hangar or other unconventional space may be the best option.

Please email suggestions for a suitable venue or potential sites for consideration to Cameron.D.Robertson@gmail.com.

Thanks for your help!

REQUEST FOR GUEST SPEAKERS

The 2011 edition of the Canadian Student Summit on Aerospace (CSSA) was hosted by Ryerson University in September of that year and was a great success. The CSSA event will be hosted by Ryerson again this season, and is scheduled for Friday, January 25 and Saturday, January 26, 2013.

The CSSA organizing team is currently putting together the program, and looking for guest speakers and sponsors. If you would like to give a presentation on your area of expertise, or share some of your professional experiences with a group of enthusiastic aerospace engineering students from Toronto and beyond, the CSSA team would like to hear from you. And if you or your company is able to provide assistance for this event (either financial or in-kind), the CSSA would be very grateful for your support.

Please contact the CSSA team through the CASI Ryerson Student Branch, at casi@ryerson.ca

INDUSTRY NEWS



Minister Paradis Unveils Canada's Rover Prototypes for the Moon and Mars

Longueuil, PQ – October 19, 2012 – The Honourable Christian Paradis, Minister of Industry and Minister responsible for the Canadian Space Agency (CSA), together with Steve MacLean, President of the CSA, celebrated Canada's legacy in space by highlighting another milestone in CSA's robotics work on rovers. These terrestrial rovers are bringing CSA one step closer to developing the next generation of rovers for space exploration. The rovers performed robotic demonstrations at the CSA's analogue testing terrain, the largest of its kind in the world, which replicates the surface of the Moon or Mars.

"Canada's reputation for excellence has been carved out through decades of innovation and technological advances such as the iconic Canadarm, Canadarm2 and Dextre," said Minister Paradis. "That legacy continues with the Next Generation Canadarm and these pioneer terrestrial rovers."

The terrestrial rovers and scientific equipment unveiled today are the forerunners of vehicles and science instruments that may one day serve in exploring destinations like the Moon or Mars. They will be put to work in field tests to: help define the science and technology most likely to be required in future

space exploration missions of interest to Canada; assess potential contributions to such missions; and refine the required technologies so they are sufficiently mature when opportunities arise.

"These model rovers are a stellar example of how our Government's investments in space are strengthening Canadian S&T excellence, fostering industrial innovation and commercialization, and positioning Canada for continuing economic growth in the knowledge economy," continued the Minister.

In 2009, Canada's Economic Action Plan committed \$110 million over three years for advance robotics and space exploration technologies, of which \$60 million was allocated to the Exploration Surface Mobility project. These funds for the rovers project were invested in a total of 33 challenging high-technology projects to over 40 Canadian private sector companies and a dozen universities.

Since 2006, the Government of Canada has invested nearly \$8 billion in initiatives supporting science, technology and the growth of innovation firms in Canada. This funding has helped to make Canada a world leader in post-secondary education research and to create the knowledge and highly skilled workforce that are required for a more prosperous economy.

Video, animations and pictures are available at the following address: ftp://ftp.asc-csa.gc.ca/users/Medias/pub/1_MOIS/2012-10-18_CanadianRoversB-Roll/



COM DEV Announces Restructuring of Canadian Division

CAMBRIDGE, ON – October 2, 2012 – COM DEV International Ltd., today announced a restructuring and downsizing of its Canadian government space division, COM DEV Canada, which is headquartered in Ottawa with additional facilities in Cambridge, Ontario. Thirty-one employees have been provided with layoff notices, and the total cost associated with the restructuring is estimated to be approximately \$2 million. Ten more employees will be transferred to open positions in other divisions of COM DEV.

"As Canada's leading supplier of instruments and payloads for government space missions, the lack of new program opportunities from Canadian Space Agency in the foreseeable future has forced us to take action," said Michael Pley, CEO. "The funding situation on the CSA's Radarsat Constellation Mission is still uncertain and, if not resolved in the near future, will result in further job losses once development funding runs out later this year. I regret the impact these circumstances have had on the employees who are being affected."

COM DEV Canada is the contractor designated to provide the central electronics and AIS payloads for Radarsat Constellation Mission. COM DEV International employs more than 1,250 people at its locations in Canada, the USA and the United Kingdom.



**exactEarth's Latest Satellite
Passes AIS Payload
Performance Testing: AIS
Message Detection Rate
Sets New Standard**

CAMBRIDGE, ON - October 17, 2012 - exactEarth Ltd., the leading provider of global satellite AIS data services, has successfully completed the payload performance testing of its latest AIS satellite, exactView-1 (EV-1), which was launched into orbit in July 2012. During the coming weeks, exactEarth will complete the remaining satellite commissioning activities and bring EV-1 into full commercial operation in November, as planned.

The polar-orbiting spacecraft was built under contract for exactEarth by SSTL in the UK and is the fifth deployed satellite in the exactView vessel monitoring satellite constellation. COM DEV Canada acted as prime contractor and COM DEV Europe(UK) supplied the advanced AIS transceiver payload for this mission. EV-1 utilizes high-speed S-band and C-band communications to frequently downlink information to a number of ground stations around the world.

"We are delighted to announce that EV-1 has passed through the payload performance testing phase with flying colours, exceeding all our expectations in the process", said Peter Mabson, President of exactEarth. "EV-1 was designed to be the most advanced AIS satellite built to date

and during the testing phase it has lived up to that billing as we have witnessed a doubling of detection rates compared to any of our previous satellite AIS sensors. We are excited with the prospect of making these data available to our customers in the very near future and providing a big step forward in maritime vessel detections from space. EV-1 is the product of exactEarth technology and investment – we see this as setting the gold standard for performance which we will continue with planned launches next year of the Canadian M3M satellite and an exactEarth AIS payload on the Spanish PAZ radar satellite"



**MDA to Be Key Supplier in
Satellite Servicing
Demonstration for US
Government**

Brampton, ON – October 18, 2012 – MacDonald, Dettwiler and Associates Ltd., a provider of essential information solutions, announced today that it has been selected as a key participant to support the U.S. Defense Advanced Research Projects Agency (DARPA) Phoenix Program.

MDA will provide a variety of servicing technologies and capabilities to the program, under multiple contracts to DARPA and the Naval Research Laboratory (NRL). These contracts will build on MDA's world leading capabilities from its operations in both Canada and the U.S.

The goal of the DARPA Phoenix Program is to develop and demonstrate technologies to cooperatively repurpose valuable components from retired, nonworking satellites and demonstrate the ability to create new space systems at greatly reduced cost. The mission will use a robotic on-orbit servicer, and components launched alongside commercial satellites.

The program also hopes to transition its developing technologies into sustainable commercial applications, that in turn support U.S. Department of Defense (DoD) needs in the future, and MDA is under contract from DARPA to assist with defining this commercialization plan as well.

"MDA's heritage of robotics and on-orbit servicing successes are a good match for the DARPA Phoenix program. We look forward to working with DARPA to demonstrate space infrastructure servicing" said Daniel Friedmann, president and CEO of MDA.

Assuming the program proceeds as planned, the overall multi-year program represents a significant opportunity for MDA and a significant step forward for demonstrating certain aspects of on-orbit servicing.

A core element of the program is two primary robotic manipulator arms. MDA is working with the Naval Research Laboratory via DARPA to provide those arms. Assuming all phases of the program are funded, the total scope for that element of the program, which is sole-sourced from MDA, is expected to not exceed \$27.2 million.

Beyond the robotic arms themselves, MDA has also been

awarded two separate contracts from DARPA that will develop key robotic servicing technologies. These include advanced robotic tools, cameras, tool caddies, and advanced designs for a hyper-dexterous robot.

An important element of the mission concept is the ability to launch components into space frequently and cost effectively, by piggybacking their launch onto a regular commercial satellite launch. MDA is under contract from DARPA to design and prototype the delivery system in which the components are sent to orbit (called PODS).

Phase 1 of the program is under contract now and MDA's scope (not including the sole-sourced robotics arms) is approximately \$2.6 million, which is expected to grow when Phase 2 gets underway next year.



Porter Airlines Celebrating 6th Birthday

TORONTO – October 23, 2012 – The party is on at Porter Airlines to celebrate six years of flying.

It has been that long since two aircraft simultaneously departed between Ottawa and Toronto, the company's first route.

With a home base at Billy Bishop Toronto City Airport, Porter's six years have helped redefine what customers expect of an airline. Convenient airport access,

complimentary airport and in-flight services, and an altogether pleasant travel experience are among these now everyday expectations.

"At first, we were known as an airline based in downtown Toronto," said Robert Deluce, president and CEO of Porter Airlines. "Today, it is the service delivered by our team that really sets us apart and has allowed us to grow to serve 19 destinations as of today."

Since 2006, Porter has carried approximately 7.5 million passengers and operated 193,000 flights.

In the last 12 months, Porter has started flying to Burlington, Vt., Timmins, Ont., and Washington D.C. A new passenger lounge was also opened at Newark airport. The lounge features complimentary access for all Porter customers, wireless Internet, beverages, snacks and comfortable seating.

ACADEMIC NEWS



Dr. Sam Sampath Receives GARDN Green Award



Dr. Sam Sampath, formerly of Pratt & Whitney Canada, was honoured recently at the second Green Aviation Research & Development Network (GARDN) Annual Conference. At the event held on September 25 and 26 in Toronto, Sam received the GARDN Green Award Recognition for his outstanding contributions to the network's development.

During more than four decades with Pratt & Whitney Canada (P&WC), Sam notably held positions as a Senior Research Fellow, Combustion and Emissions, and head of the company's biofuel research program. Over the course of his tenure, he worked on almost every engine program, playing an instrumental role in establishing the company as a leader in the field of small engine combustion systems.

Since leaving P&WC, he has continued to play an active role in promoting green aviation. Earlier this year, he joined the University of Toronto Institute for Aerospace Studies and was named the Natural Sciences and Engineering Research Council of Canada (NSERC)/P&WC Industrial Research Chair in Aviation Gas Turbine Combustion/Emissions Research and Design System Optimization. He holds 14 U.S. patents, has published over 35 papers and has served with various Canadian and international organizations. His environmental impact studies for the Intergovernmental Panel on Climate Change contributed to its winning the Nobel Peace Prize in 2007.

"At NSERC, we are proud to be making investments in people who are pursuing some of the most ambitious and creative ideas in the

world," said Dr. Suzanne Fortier, President, NSERC. "Dr. Sampath is a highly respected leader in the field of combustion for aviation gas turbine engines. His novel research program will bring critical advancements for the development of green aircraft engines."

The GARDN Green Award Recognition is but the latest accolade for Sam, who received a P&WC Pioneers of Our Future Special Award in 2008 and was inducted into the Canadian Academy of Engineering in 2010.

Source: Consortium for Research and Innovation in Aerospace in Quebec (CRIAQ)



CFI Awards York University Researchers Over \$592,000 in Research Infrastructure

Funding will support four projects in film, biology, chemistry and earth and space science & engineering

TORONTO – October 16, 2012 -- The Canada Foundation for Innovation (CFI) has awarded York University \$592,631 in infrastructure funding to support the research of four York professors.

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Tom McElroy, professor in the Faculty of Science and Engineering's Department of Earth and Space Science and Engineering, will receive \$135,671 in funding for the creation of a new

laboratory to support the development of next-generation space technology, which will be used to measure the composition of the atmosphere from space. The development of this advanced technology for atmospheric remote sounding will enhance Canada's contribution to the global monitoring capacity for the climate and atmospheric communities. These contributions are necessary for Canada to maintain its access to global data sets and to provide input for the analysis and modeling of climate change and air quality – critical knowledge for a sustainable future.

...

"I am delighted that the Canada Foundation for Innovation has recognized four of York's leading researchers through these awards," said Robert Haché, York's vice-president research & innovation. "CFI's investment in state-of-the-art infrastructure further enhances York's vibrant research culture and enables our researchers to continue to build on and expand their innovative research programs."

York's projects were part of a \$44.5-million investment in CFI's Leaders Opportunity Fund, which provides Canadian researchers with the necessary tools to carry out a range of frontier research. The funding supports 210 research projects across the country.

Minister of State Gary Goodyear announced the funding on Tuesday.

"Our government recognizes that investing in science and technology leads to a stronger, more innovative economy," he said. "We understand that Canada's research enterprise is

critical to economic growth and job creation."

"Given the right infrastructure, this talented group of innovators will create solutions that benefit Canadians and Canadians communities," said Dr. Gilles G. Patry, president and CEO of the CFI.

MUSEUM NEWS



November 11, 2012 - Remembrance Day Service 10:30 am to 12 noon

Our service takes place indoors at the Canadian Warplane Heritage Museum located at Hamilton Airport.

This year's guest speaker will be Ted Barris. Barris is an accomplished author, journalist and broadcaster. There is limited seating for several hundred with additional standing room. It is best to arrive early to ensure a seat. Parking and admission to the Museum is free but donations to the Museum are greatly appreciated.

Weather permitting, the Museum's Avro Lancaster bomber will do a flypast for the service. The service is being broadcast live by CHCH.



**NATIONAL AIR FORCE
MUSEUM OF CANADA**

Fall/Winter Hours in Effect

Until April 30, the Museum will be closed on Monday and Tuesday and open Wednesday through Sunday 10:00 am to 5:00 pm.

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