



# Canadian Aeronautics and Space Institute Institut aéronautique et spatial du Canada

Patron  
H.R.H. Prince Philip  
Duke of Edinburgh

**\*\*\* FOR IMMEDIATE RELEASE \*\*\***

**April 5, 2019**

## **CANADIAN AERONAUTICS AND SPACE INSTITUTE ANNOUNCES 2019 SENIOR AWARD HONOUREES**

Dr. Jacques Giroux, president of the Canadian Aeronautics and Space Institute for 2018-19, has announced the recipients of the 2019 CASI Senior Awards.

The Awards and the recipients are:

1. The Trans-Canada (McKee) Trophy  
Colonel (ret) Don Matthews
2. CASI McCurdy Award  
Mr. Stephen McCullough, Bombardier Aerospace
3. CASI C.D. Howe Award  
Mr. Rob Dewar, Bombardier Aerospace
4. CASI Roméo Vachon Award  
Mr. Jean-Marc Leclerc, Bombardier Aerospace
5. CASI Alouette Award  
M Frédéric Pelletier, KinetX Aerospace Inc.

The criteria for each of the Senior Awards and summaries of the credentials of the recipients are found on the following pages.

Presentation of the CASI McCurdy Award, the CASI C.D. Howe Award and the CASI Roméo Vachon Award will be made during the Gala Dinner on the evening of Wednesday 15 May as part of the CASI AERO 2019 conference in Laval, Quebec.

Presentation of the Trans-Canada (McKee) Trophy will be made at the Air Force Museum of Alberta, Calgary AB on May 5, 2019.

Presentation of the 2019 CASI Alouette Award will be made at a time and place TBC.

For more information and to purchase tickets, contact the headquarters of the Canadian Aeronautics and Space Institute at (613) 591-8787.

**... details on the following pages ...**



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## **The Trans-Canada (McKee) Trophy**

The Trans-Canada Trophy, generally known as the McKee Trophy, is the oldest aviation award in Canada. It was established in 1927 by Captain J. Dalzell McKee. In 1926 McKee, of Pittsburgh, Penn. accompanied by Squadron Leader Earl Godfrey of the RCAF, flew from Montreal to Vancouver in a Douglas MO-2B seaplane. McKee was so impressed by the services provided by the RCAF and the Ontario Provincial Air Service that he established an endowment by means of which the greatly coveted McKee Trophy is awarded to the Canadian whose achievements were most outstanding in promoting aviation in Canada.

The Trophy was deeded to the Crown in the person of the Minister of National Defence - in the days when the Department of National Defence controlled all flying, military and civil. It was retired in 1964 and reinstated in 1966, and in 1971 administration of the Trophy was transferred to the Canadian Aeronautics and Space Institute. From 1964 until its move to Canada's Aviation Hall of Fame in 1983, the Trophy was on display at the National Museum of Science and Technology in Ottawa.

The Trophy is awarded for outstanding achievement in the field of air operations. The achievement for which the Trophy is awarded may be a single brilliant exploit within the past year, or a sustained high-level performance in recent years; pioneering of new areas of air operations and advancement of the use of aviation shall receive consideration over achievements serving no useful end. Qualifications as aircrew shall be a prior claim to consideration. The recipient shall have been a Canadian citizen at the time of the achievement.

## **Colonel (ret) Don Matthews**

Don Matthews graduated from the Royal Military College of Canada (RMC) in 1972. Don is a highly respected professional and a recognized leader, having excelled in countless facets of air operations from being a practitioner to exercising strategic leadership. A decorated fighter pilot, his stellar military career includes command of 439 Squadron in Germany and in the Middle East where he commanded the CF-18 Squadron - known as the Desert Cats - during the Gulf War. He later served as Commander of the Canadian Contingent of the United Nations Mission to Haiti. His exceptional contributions to air operations in support of international security are achievements that merit recognition. The culmination of Don's career saw his appointment as Commanding Officer (CO) of



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the Aerospace Engineering Test Establishment (AETE), responsible for the advancement of over 60 flight test programs.

After his career in uniform, Don transitioned to industry, where his operational experience was critical as a subject matter expert to advancing military flight training programs. Following this, his leadership was key to the strategic development of advances in aviation and the evolution of aviation-related companies, a number of which he served as President. For example he was instrumental in developing unique online training tools for aviation safety management and in supporting Alberta's aviation industry. His work with unmanned vehicle systems facilitated the entry of small companies into the field and also helped shape new guidelines for certification. In addition, his work with unmanned aircraft led to the growth of environmentally-friendly fluids and additives as well as the improvement of quality processes for additive manufacturing.

Demonstrating true commitment to help others, he has also been actively involved in his community, volunteering as People's Warden for his Church and as Director of 'La Viexplorers Society' charity.

A leader and consummate professional, Don Matthews has made a remarkable impact with air operations around the globe. His outstanding contributions over a sustained period of time and his commitment to advancement in new areas are testament to the recognition he deserves among Canada's highly-respected leaders in aviation..

## **The CASI McCurdy Award**

The McCurdy Award was introduced in 1954 by the Institute of Aircraft Technicians, one of the aeronautical groups that amalgamated to form the Canadian Aeronautics and Space Institute. The award commemorates the many engineering and other contributions made by John A.D. McCurdy during the first stages of the development of an aviation industry in North America.

The award is presented for outstanding achievement in the science and creative aspects of engineering relating to aeronautics and space research. The achievement must constitute the most significant contribution made in recent years toward the advancement of science and technology in aeronautics and space exploration, and must be worthy of special recognition. The contribution may be administrative in nature, but it must be directly related to science and technology, and have been sustained over a number of years at an imaginative and creative level above that which would normally be considered a competent and successful performance. The recipient shall have been a Canadian citizen at the time the contribution was made.



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## **Mr. Stephen McCullough**

Stephen McCullough joined Bombardier in 1989, initially in Belfast (UK) where he contributed to various design projects, culminating to the role of Chief Engineer of Aerostructures where he led the design and development of the Challenger 300 and CRJ700 fuselage work packages until 2001. After a few years in the United States as Flight Test Manager for the Bombardier Flight Test Centre and Director of Engineering for aircraft interiors, he pursued his career in Canada in 2004 as Director of Engineering and Methods for the Challenger line of aircraft. In that function, he led the development of a benchmark aircraft in the super mid-size segment, the Challenger 605, from the pre-launch phase of the program all the way to its successful entry-into-service, all while achieving certification ahead of schedule – a rare accomplishment in the industry.

Building on this solid engineering background, Mr. McCullough put his talent to work on the most ambitious business aircraft development project ever undertaken by Bombardier: the Global 7500. The Global 7500 program was launched in 2010 and Mr. McCullough took the leadership role in 2011 as Vice President of the Integrated Product Development Team. The team then launched studies on the systems architectures, interface definition and structures and components dimensions – all while incorporating the wind tunnel test results in their evaluations. By 2013, the design had progressed immensely and in May 2014, the major structures assembly began on the first flight test vehicle (FTV). In September of 2015, the engines were mounted on FTV1. The flight test fleet consisted of five flight test vehicles (FTVs) and FTV1's first flight took place on November 4, 2016. In September 2018, the National Aircraft Certification office of Transport Canada awarded the Type Certificate to the model BD-700-2A12, only 23 months after the first flight which in itself was an enormous achievement.

Under the leadership of Mr. McCullough, the Integrated Global 7500 Product Development Team has successively designed, developed, tested on the ground and in flight, and finally put in service the most innovative and performing business aircraft in the world, capable of meeting and even surpassing the initial performance estimates.

Throughout the development program, Mr. McCullough has added innovative elements to the development capabilities of Bombardier's engineering teams, putting in place innovative approaches that delivered a highly competitive product on time. In particular:

- Innovative technical solutions to achieve performances never established by a Canadian business aircraft: active management of the centre of gravity allowing attainment of range predictions, a flexible wing and integrated flight surface control systems to solve the aeroelastic constraints of a flight regime beyond M0.90, double-slotted flaps (a first for Bombardier Business Aircraft) enabling steep approaches to airports such as London City.



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- New solutions for a revised regulatory framework: active and passive fuel tank ignition control systems, and a development milestone control process for validation steps and verification of functional requirements.
- Development of agile and revised processes in support of first flight readiness that reached a level of maturity and security unmatched for a business aircraft: engineering flight simulators (ESIM), a ground based integrated systems test rig named "aircraft zero" allowing an unparalleled level of integrated testing, and an engineering team dedicated to the discipline of integration.

Throughout the Global 7500 development program, Mr. McCullough also led the technical management of 35 structural and component suppliers, located in several North American and European countries. In addition he is recognized by his peers for the rigor and integrity he applies to all spheres of a development program, particularly in the definition and implementation of engineering work, the identification of technical risks and his dedication to flawless execution.

## **The CASI C.D. Howe Award**

In 1966 CASI introduced the C.D. Howe Award in honour of The Right Honourable C.D. Howe. The Award is presented for achievements in the fields of planning and policy making, and overall leadership in Canadian aeronautics and space activities.

The achievement for which the award is given shall be of permanent significance, and its benefits to aeronautics and space activities in Canada shall have been unquestionably established. To this end, the recipient shall have sustained an outstanding personal performance in these fields for at least ten years and it shall be reasonably certain that the merits of his achievements will be unassailable in the light of history. The recipient shall have been a Canadian citizen and resident during the time the contribution was made.

## **Mr. Robert Dewar**

Boasting a 20-year career with Bombardier, Mr. Dewar has held several key positions in engineering and in various product development programs including being a very efficient Engineering Integrator for the CRJ700 aircraft program. He joined the CSeries aircraft program as Director of Product Definition at the very onset of the program in May, 2004. He was appointed to the position of Vice President, CSeries Integrated Aircraft Program, Bombardier Commercial Aircraft, in 2010, a position he held until his subsequent promotion in 2018.

The engineering leadership challenge he faced was daunting. The aircraft had to be the best in class in terms of cabin comfort, fuel efficiency and environmental performance, and use of the latest technologies such as an advanced flight deck with a fly by wire control system; Pratt &



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Whitney's PurePower PW1500 geared turbofan engines; and advanced structures made either of composite materials or of aluminium-lithium alloy. Mr. Dewar was a key member of the Bombardier leadership team responsible for successfully bringing the game-changing CSeries family of aircraft to market. His role was key in ensuring customers' requirements and business case objectives were met. He led the teams responsible for the overall CSeries aircraft product development, design, and integration, as well as production, certification, delivery, scheduling and cost compliance.

In 2016 Rob Dewar and the CSeries aircraft program team were awarded the James C. Floyd Award by the Aerospace Industries Association of Canada for their important contributions to Canadian aerospace innovation and leadership, both domestically and in the global marketplace. The citation read in part, "The development and launch of the CSeries aircraft is an industrial achievement of the highest order. It highlights everything that we celebrate about Canada's aerospace industry: innovation, perseverance, and a commitment to world-class products. Rob Dewar and his team have worked tirelessly for over a decade for the creation of the CSeries, making it the biggest Canadian commercial aerospace program ever launched ..."

In 2018 under the joint partnership agreement between Airbus and Bombardier, he was appointed Vice-President of Customer Engineering, Engineering & Product Development for the newly-named Airbus A220. The aircraft has had a profound impact on the world's commercial aviation industry, and Rob Dewar's leadership of the engineering effort has been instrumental in its outstanding success.

## **Alouette Award**

CASI created the Alouette to recognize an outstanding contribution to advancement in Canadian space technology, application, science or engineering. The CASI Alouette Award may be presented to an individual, to a group, an organization or group of organizations, as appropriate to the nature of the contribution.

The terms are:

- a) The trophy shall be awarded annually for an outstanding achievement in the field of aeronautics as defined by the CASI By-Laws.
- b) The achievement may be either a single outstanding contribution or, in the case of an individual nominee, a sustained high level of performance resulting in several advances in space.
- c) The contribution on which the award is based must be recognized as a Canadian-led space endeavour or as a significant Canadian contribution to an international program.
- d) Preference shall be given to contributions that lead to new benefits for mankind.
- e) The recipient shall have been a Canadian citizen at the time the contribution was made.



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## Mr. Frédéric Pelletier

Frédéric Pelletier was hired in 2002 by the Canadian Space Agency as an Astrodynamics Engineer. Throughout his career at CSA, Fred has embraced and reflected the key values of professionalism and teamwork. In the fall of 2004, Fred was offered, and accepted, the position of Navigation engineer for the Cassini-Huygens mission to the planet Saturn. The job included orbit determination and maneuver planning. Cassini-Huygens was launched in 1997 and entered Saturn orbit on July 1 2004. Huygens was deployed from Cassini to land on Saturn's largest moon, Titan. Since then Cassini became an orbiter around Saturn. With the probe safely in orbit, the mission scientists wanted to maximize the science return which can be simply summarized as "maximize the number of moons to be visited at the closest distances and minimum fuel." The request sounds innocent but to implement required a team of navigation experts. Fred joined the team in 2005 and three years later, he was promoted to be the Team Manager for Cassini Navigation leading a group of 8 engineers.

Fred's excellent navigation skills achieved considerable renown, and his next assignment was with the New Horizons mission team. They launched a probe to Pluto in 2006 that was to make the closest encounter ever of the 'planet' in 2015. By then Fred was working at a company called KinetX and through a special arrangement with the firm, Fred supported the Pluto encounter in the final home stretch from his home in Québec City. With Fred as the team lead, the orbit of the probe was continuously reconstructed using telemetry and the occasional image of a few pixels in size. As the Pluto image became more detailed, the team had to determine the final burn for the closest encounter.

Owing to Fred's expertise and talent, New Horizons snapped the best images we have ever seen of Pluto on July 14, 2015. It is no exaggeration to state that this "once in a lifetime" mission achieved its goal with the fine guidance from Fred.

Based on that outstanding success, the mission was extended to explore the Kuiper Belt. When New Horizons left the orbit of Pluto, the probe was approximately 9 AU distant (or 9 times the distance between the Sun and Earth) and moving at a speed of about 16 km/s. Scientists identified a target known as 2014 MU69 in the Belt to explore. Again working mostly out of his home Fred led a team in determining the probe trajectory and vital corrections on the path towards 2014 MU69. The small fuel reserve remaining in the New Horizon spacecraft limited maneuvering to only 4 major burns in travelling 9 AU. These burns had to be perfectly timed: without them, the probe would miss its target by 5 million km.

On January 2, 2019, New Horizons delivered the first image of 2014 MU69 a.k.a. Ultima Thule. We have since learned that it is not a single object but two bodies or "contact binary" looking like a snowman. Ultima is about 19 km in size and Thule about 14 km.



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It is hard to imagine how refined must be the engineering skills required to guide a space probe on a 9 AU journey to make a close encounter with such a tiny object three years later.

In recognition of his New Horizons accomplishments, the International Astronomical Union has approved naming Asteroid 177722 after Frédéric Pelletier

## **The CASI Roméo Vachon Award**

The CASI Roméo Vachon Award was introduced in 1969 by the Canadian Aeronautics and Space Institute in memory of one of Canada's outstanding bush pilots.

It is presented for outstanding display of initiative, ingenuity and practical skills in the solution of a particular challenging problem or series of challenging problems in aeronautics and space activities in Canada. The achievement for which the award is given shall be of technological nature, particularly practical skills, not necessarily in the scientific or engineering fields. The recipient shall have been a Canadian citizen at the time the contribution was made.

## **Mr. Jean-Marc Leclerc**

Jean-Marc Leclerc joined Bombardier Aircraft in August 1998 having graduated from the École Nationale d'Aérotechnique. Much of his career has been spent analysing and improving upon assembly methods for a variety of Bombardier aircraft. His first job was with the Global Express and he then moved to the Challenger 300. The depth of his knowledge regarding manufacturing processes and standards has been heavily relied upon. He has helped design, create and implement tools that have contributed significantly to the success of our business.

For the Quality department specifically, Jean-Marc has been a reference point during difficult conversations with external partners, bringing guidance, knowledge and experience to the table. During periods where our suppliers were struggling to find solutions to complex technical issues having significant impact our production line, Jean-Marc has always been available as a key contributor to the problem solving process.

Jean-Marc has made significant contributions by: defining new manufacturing strategies and visions, implementing new technologies to constantly improve our product, finding solutions for issues on the line or directly at the source, developing people, patenting, helping suppliers, and managing major projects. He has a natural ability to get along well with colleagues from different areas and levels: engineering, production, quality, logistics, suppliers and senior management in order to achieve common goals. As team lead, Jean-Marc collaborates closely with his colleagues working in a pleasant atmosphere, developing trust, integrity and stimulating performance.

Jean-Marc has been recognized by top management for his sustained efforts to improve Bombardier facilities so as to maintain the company's manufacturing leadership. One of his most



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significant innovations is a new aircraft position which incorporates state-of-the-art technology. This new position makes possible a reduction in parts inventory and facilitates installation and calibration tests of flight controls by simulating the load of both wing and fuselage on each other prior to joining these two assemblies. A Bombardier patent for this technology has been filed and is helping the company to improve production efficiency while having a positive impact on the health and safety of employees.

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