CONFERENCE OVERVIEW and TECHNICAL PROGRAM
APERÇU DE LA CONFÉRENCE et PROGRAMME TECHNIQUE

Canada’s leading aeronautics conference | La principale conférence en aéronautique au Canada
Sheraton Laval Hotel, Montréal, Québec | May 14-16 mai
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## Plenary Information

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<td>Keynote Presentation</td>
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| Tues. 14 May | 10:30 – 12:00 | Plenary 1 Urban Mobility | Denis Faubert (Chair) | CEO, CARIC  
Michelle Dion | Innovation Lead, Bell Helicopter  
Wajid Ali Chisty | Program Leader, NRC  
José Martin | Program Manager, Transport Canada  
Phil Cole | VP Business Development, Marinvent |
| Wed. 15 May  | 08:30 – 10:00 | Plenary 2 Hybrid/Electric Propulsion | David Rancourt (Chair) | Université Sherbrooke  
Askin Isikveren | Safran Group  
Philippe Novelli | ONERA  
Sylvain Larochelle | Pratt & Whitney Canada |
| Wed. 15 May  | 13:00 – 14:30 | Plenary 3 Industry 4.0 (may be presented in French) | Catherine Beaudry (Chair) | Polytechnique Montréal  
Bruno Agard | Polytechnique Montréal  
Yoan Buisson | Stelia Aerospace  
Yves Proteau | APN |
| Thur. 16 May | 08:30 – 10:00 | Plenary 4 Impact of 5G | Mark Aruja (Chair) | DG, Unmanned Systems Canada  
Christophe Bouchaud | Principal VP, Aviation Strategies International  
Pierre Boucher | DG, ENCQOR Consortium  
Brunilde Sansò  | Professor, Polytechnique Montréal  
Sébastien Vaillancourt | Program Manager, Thales |

### AERO 2019 Exhibitors

- Altair
- Institute for Aerospace Studies, University of Toronto
- MACFab
## Technical Session 1

**Tues 14 May | 13:30-15:00**

### Chair: Charles Tatossian
**Bombardier Aerospace**

### Chair: Catherine Mavriplis
**U. of Ottawa**

### Chair: Mehdi Hojjati,
**Concordia University**

### Chair: Sylvain Labonté,
**NRC**

### Chair: Denis Walch,
**Bombardier Aerospace**

### Chair: Billy Allan,
**Royal Military College of Canada**

### Chair: Jeremy Laliberte,
**Carleton University**

### Chair: Philippe Doyon-Poulin,
**Polytechnique Montréal**

### Topics

- **Aerodynamics**
- **Aerospace Manufacturing Technologies**
- **Aerospace Structures & Materials**
- **Propulsion**
- **Aircraft Design & Development**
- **Human Factors & Training**
- **Flight Ops & Flight Test**
- **Unmanned Aerial Vehicles**
- **Cockpit Display Design & Augmented Reality (AR)**

### Abstracts

1A-01

**36 - Evaluating of the impact of morphing horizontal tail design of the UAS-S45**

**Chair: Charles Tatossian**
**Bombardier Aerospace**

**Marine Seguí et al**
**ETS-LARCASE**

**Reda Merabet et al**
**Polytechnique Montréal**

**Emmanuel Maes**
**ULaval**

**Shahrazad A. Taher et al**
**Carleton U**

**Pradeep Dass et al**
**Benjamin Dalman et al**

**Maryam Safi et al**
**U of Ottawa**

1B-01

**84 - Towards an actuator line method for helicopter rotors computations**

**Chair: Catherine Mavriplis**
**U. of Ottawa**

**Frédéric Moens**
**ONERA**

**Devin Barcelos et al**
**Ryerson U**

**Emmanuel Maes**
**Stelia North America**

**Braden Warwick**
**Queen’s U**

**Curtis Kaatz et al**
**Brendan Ooi et al**

**Vamshi Chittaluri**
**Carleton U**

1C-01

**1D-01**

**5 - Design and characterization of micro-structured tensegrity lattice materials as a new candidate for skin panels of morphing aircraft wings**

**Chair: Mehdi Hojjati**
**Concordia University**

**Vincent Myrand-Lapierre**
**CAE**

**Christophe Alsì et al**
**Polytechnique Montréal**

**Redouane Lombarkia**
**U Laval**

**Hicham Ousseni**
**ETS**

**Hugh Liu**
**UTIAS**

**Maxence Hébert-Lavoie**
**Polytechnique Montréal**

1E-01

**1F-01**

**180 - Multidisciplinary design optimization of a small-scale supersonic UAV using SUAVE**

**Chair: Billy Allan**
**Royal Military College of Canada**

**Terrin Stach et al**
**RMC**

**Doukaini Mavroidi et al**
**Carleton U**

**David Communier et al**
**ETS-LARCASE**

**Sam Clement-Coulson et al**
**Concordia U**
## Technical Session 2

**Tues 14 May | 15:30-17:00**

### Terrebonne
- **Chair:** Stéphane Moreau, Université de Sherbrooke
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Rosmère
- **Chair:** Dominique Poirel, Royal Military College of Canada
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Des Prairies
- **Chair:** Louis L. Lebel, Polytechnique Montréal
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Chomedey
- **Chair:** Sylvain Turenne, Polytechnique Montréal
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Auteuil
- **Chair:** James Crone, Pratt & Whitney Canada
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Vimont
- **Chair:** Mohammad Riazi, Bombardier Aerospace
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Giuseppe-Saputo
- **Chair:** Phil Cole, Marinvent
- **Academic:** Polytechnique Montréal
- **Industry:** Aviation, Aérospatiale

### Aerospace Structures & Materials
- **2A-01** 64 - Gradient-free high-fidelity airfoil optimization
  - Reza Sadri et al.
  - Bombardier Aerospace

- **2B-01** 110 - Performance and heat transfer calculation for rotors using the unsteady vortex lattice method
  - Abdullah Samad et al.
  - ETS-LARCASE

- **2C-01** 177 - Manufacturing thermoplastic composite structures using automated fiber placement (invited)
  - Jihua Chen et al.
  - NRC

- **2D-01** 10 - Energy and exergy mapping of a modern aircraft: case study
  - Patrick Kendall et al.
  - Queen's U

- **2E-01** 30 - Energy and exergy mapping of a modern aircraft: case study
  - Hugues Pellerin et al.
  - McGill U

- **2F-01** 60 - Generalized extended state observer-based control application for active disturbance rejection of the UAS-54 Hécatil design
  - Hugo Yañez-Badillo et al.
  - Talancang Polytechnic U

- **2G-01** 66 - Effects of recent pilot-in-command hours on situation awareness and critical incidents for pilots across the lifespan
  - Kathleen Van Benthem et al.
  - Carleton U

### Human Factors & Training / Flight Ops & Flight Test
- **2A-02** 116 - Toward non-linear unsteady vortex lattice method (NL-UVLM) for rotary wing aerodynamics
  - Michael Melville et al.
  - Ryerson U

- **2B-02** 154 - The effect of braid pattern on the pulling force of thermoplastic braid-trusion sandwich panels
  - Vincent Proulx-Cabana et al.
  - ETS-LARCASE

- **2C-02** 19 - Multiscale design optimization of eco-efficient freight rail cars employing lightweight honeycomb sandwich panels
  - Mohammad Ghaedsharaf et al.
  - Polytechnique Montréal

- **2D-02** 183 - Propulsion System Maintenance in the 21st Century
  - Ayman Al-Sukhon et al.
  - McGill U

- **2E-02** 97 - Nonlinear adaptive fuzzy control of uncertain chaotic click mechanism flapping-wing
  - Capt. Paul Bordush
  - Ryerson U

- **2F-02** 52 - Method and system for determining a recirculation effect from an obstacle on a main rotor induced velocity of a simulated rotorcraft
  - Seyed Mohammad Hashemiet al.
  - Carleton U

- **2G-02** 127 - Development of a full-flight simulator for the Canadian environment
  - Carlo Ferlisi et al.
  - CAE Inc

### Simulation and Pilot Training
- **2A-03** 144 - Determination of scaling factor for unmanned aerial vehicle rotors
  - Dylan Caverly et al.
  - McGill U

- **2B-03** 101 - Compilation and characterization of the current state of a propulsion engine: a comparison of machine learning frameworks
  - Ammar Jessa et al.
  - Ryerson U

- **2C-03** 83 - 138 - Wind disturbance rejection for a flying-wing tail-sitter
  - Nima Bakhshi et al.
  - Concordia U

- **2D-03** 81 - 140 - Characterizing the current state of a propulsion engine: a comparison of machine learning frameworks
  - Hamed Niknам et al.
  - McGill U

- **2E-03** 140 - Characterizing the current state of a propulsion engine: a comparison of machine learning frameworks
  - Sriushi Sehgal et al.
  - McGill U

- **2F-03** 95 - Dynamic soaring using a neuro-evolutionary approach
  - Ruben Perez et al.
  - RMC

- **2G-03** 127 - Development of a full-flight simulator for the Canadian environment
  - Julien Guay et al.
  - CAE Inc

### Aircraft Design & Development
- **2A-04** 63 - Numerical investigation of vortex ring state rotors
  - Aditya Kashi
  - McGill U

- **2B-04** 100 - How to leverage AI in discrete manufacturing for the aeronautic industry
  - Joel McQuaid et al.
  - Ryerson U

- **2C-04** 125 - Correlation of simulation vs. bird strike tests on sandwich composite panels
  - Barry Turner
  - Maya HTT

- **2D-04** 72 - Comparison between modern engine and old engine aircraft on contrail ice particles formation
  - Gianfilippo de Leva
  - Bombardier Aerospace

- **2E-04** 56 - Using artificial neural networks in aircraft performance modelling
  - Sébastien Cantin et al.
  - Bombardier Aerospace

- **2F-04** 135 - UAV swarm control and its influence on cognitive workload: a field experiment
  - Nicolas Vincent-Boulay
  - Concordia U

- **2G-04** 135 - UAV swarm control and its influence on cognitive workload: a field experiment
  - Marcel Kaufmann et al.
  - Polytechnique Montréal
### Technical Session 3

**Wed 15 May | 10:15-11:45**

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**Chair:** David Zingg  
*University of Toronto*

**Chair:** Goetz Bramesfeld  
*Ryerson University*

**Chairs:** Priti Wanjara, NRC  
Mathieu Brochu, McGill University  
Julien Chauvée, Altair  
TBD  
Susan Liscouet-Hanke, Concordia University  
Malcolm Imray, NRC

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<td>9 - Challenges of computed tomography inspection for carbon/PEEK discontinuous long fiber composite gas turbine engine components</td>
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<td>98 - Efficiency comparison of a passively coupled tiltrotor and traditional small UAV configurations</td>
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**Manmeet Bharba**  
*McGill U*

**Brandon Lowe et al**  
*UTIAS*

**Mohammed Alkhabbat et al**  
*RMC*

**Gilles-Philippe Picher-Martel et al**  
*ETS-LARCASE*

**Asad Asghar et al**  
*UTIAS*

**Devin Barcelos et al**  
*ETS-LARCASE*

**Kris Ellis**  
*RMC*

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<td>175 - Friction Stir Welding of High-Strength Aerospace Aluminum Alloys</td>
<td>121 - Mechanical properties of graphene-enhanced glass-fiber reinforced composite rods manufactured by pultrusion</td>
<td>162 - A Numerical Study on the Effect of Hole Imperfection Location on Film Cooling Effectiveness</td>
<td>34 - Development of a thermal analysis capability for early validation of aircraft system architectures</td>
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**Marnie Segui et al**  
*ETS-LARCASE*

**Miguel Gagnon et al**  
*Polytechnique Montréal*

**Simon Larose et al**  
*NRC*

**Nima Moghimi et al**  
*NanoXplore Inc.*

**Taha Rezzag et al**  
*Ryerson U*

**Florian Sanchez et al**  
*Concordia U*

**Guillaume Savoie Chiasson**  
*Bombardier Aerospace*

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<td>108 - Kinematics of a free-pitching flexible cantilever wing with structural and aerodynamic non-linearities at transitional Reynolds numbers</td>
<td>7 - The impact of surface state on the mechanical properties of aluminum 2024 AlClad® friction-stir-welded lap joints</td>
<td>130 - Moisture diffusion in polymeric composite material at different void contents</td>
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<td>71 - Part consolidation of an avionics pedestal by topology optimization-based DIAM (Design for Additive Manufacturing)</td>
<td>Keynote: Certification of Aeroplanes for Flight in Icing - Part 1</td>
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**Chih-Hao Chen et al**  
*McGill U*

**Crystal Itwar Barrett et al**  
*RMC*

**Bénédicte Robitaille et al**  
*Polytechnique Montréal*

**Afschin Bayatpour et al**  
*Réson U*

**Sana Abd Alsalam et al**  
*Concordia U*

**Kevin Conklin et al**  
*Queen’s U*

**Jim Martin**  
*Strategic Aviation*

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**Reza Sudri et al**  
*Bombardier Aerospace*

**Denis Kholodar**  
*Bombardier Aerospace*

**Evgueni Bordatchev et al**  
*NRC*

**Michael Jakubinek et al**  
*NRC*

**Asad Asghar et al**  
*RMC*

**Neil Trivers et al**  
*Queen’s U*

**Jim Martin**  
*Strategic Aviation*

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<td>151 - A low Reynolds number experimental evaluation of tubercles on a low-pressure turbine cascade</td>
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**Alex Pym et al**  
*RMC*
### Technical Session 4

**Wed 15 May | 14:45-16:15**

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<td>Chairs: Yadienka Martinez Rubi, NRC</td>
<td>Chair: Paul Bordush, Royal Military College of Canada</td>
<td>Chair: Denis Walch, Bombardier Aerospace</td>
<td>Chair: Nami Bae, CMC Electronics</td>
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<td>University of Ottawa</td>
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<td>111 - Grid study for delayed detached eddy-simulation’s grid of a stalled wing</td>
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<td>149 - Integrated dynamic aeroelasticity response analyses and multiscale design optimization of unmanned aerial vehicle with blended-wing body configuration</td>
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Carlos A. Pereira et al | Huiying Zhang et al | Yadienka Martinez Rubi et al | Timothé Peočh et al | Denis Walch | (Ted) Ze Feng Gan et al |
| Concordia U | Queen’s U | U of Waterloo | ETS-LARCASE | Bombardier Aerospace | Carleton U |

| Bombardier Aerospace | RMC | U of Waterloo | ETS-LARCASE | Bombardier Aerospace | Carleton U |

Mohsen Hamedi et al | Aviral Prakash et al | David Bachman et al | Naiheng Song et al | Hicham Ousseni | Mostafa El Sayed |
| Concordia U | Polytechnique Montréal | NRC | NRC | ETS-LARCASE | Carleton U |

Violaine Huck et al | Raj Mehta et al | John Olsen et al | Yafus Siddiqui | Mostafa El Sayed et al | Giorgio Clementi |
| ETS-LARCASE | RMC | Queen’s U | Maya HTI | Carleton U | ITPS Canada Ltd. |
## Poster Presentations | On Display All 3 Days

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<tr>
<th>Catherine Dolly Clement</th>
<th>María José Grasso</th>
<th>Jean-François Gamache</th>
<th>Robert Alstrom</th>
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<td>Polytechnique Montréal</td>
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# Technical Session 5

**Wed 15 May | 16:15-17:45**

**Chair:** Hong Yang, Bombardier Aerospace  
**Chair:** Siva Nadarajah, McGill University  
**Chair:** Julien Chaussée, Altair  
**Chair:** Abu Sayed Kabir, Carleton University  
**Chair:** Julieta Barroeta Robles, NRC  
**Chair:** Pat Piperni, Clarkson University  
**Chair:** Joon Chung, Ryerson University

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<tr>
<th>Location</th>
<th>Session Title</th>
<th>Authors</th>
<th>Institutions</th>
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<tr>
<td>Terrebonne</td>
<td>Aerodynamics</td>
<td>Matthieu Parenteau et al</td>
<td>Polytechnique Montréal</td>
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</tbody>
</table>
| Rosmère        | Computational Methods 2  
Reduction 2   | Raben Perez et al                    | RMC                              |
| Des Prairies   | Aerospace Manufacturing                            | Michael Jakubínek et al         | Carleton University               |
| Chomedey       | Aerospace Structures & Manufacturing           | Michael Hudack                    | Dynamic Systems, Inc.             |
| Auteuil        | Aircraft Design & Development                      | Prajwal Prakash                  | DLR                              |
| Vimont         | Human Factors & Training / Flight Ops & Flight Test | Garrick Cabour                   | Polytechnique Montréal            |
| Giuseppe-Saputo| Joon Chung, Ryerson University                   |                                  |                                   |

### 5A-01
- **5B-01: Time spectral vortex lattice method coupled with 2.5D RANS**
  - Authors: Matthieu Parenteau et al  
  - Institution: Polytechnique Montréal

### 5A-02
- **5B-02: Recent progress using high-order unstructured methods for turbulent flows**
  - Authors: Brian Vermeire et al  
  - Institution: Concordia University

### 5A-03
- **5B-03: Rotational effects on airfoils using 2.5D Reynolds-averaged Navier-Stokes solver**
  - Authors: Minh Tuan Nguyen et al  
  - Institution: Polytechnique Montréal

### 5A-04
- **5B-04: Vorticity-based polynomial adaptation for moving and deforming domains**
  - Authors: Ramin Ghoreishi et al  
  - Institution: Concordia University
## Technical Session 6

**Thurs 16 May | 10:15-11:45**

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<td>Aircraft Design &amp; Development</td>
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<td>Computational Methods 3</td>
<td>Icing 1</td>
<td>Additive Manufacturing 3</td>
<td>Modelling and Simulation 1</td>
<td>Automation</td>
<td>Product Lifecycle Management</td>
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**Chair: Eric Laurendeau**

**Polytechnique Montréal**

**Chair: Mathieu Olivier**

**Université Laval**

**Chairs: Denis Walch, Bombardier Aerospace**

**Hamid Akbarzadeh, McGill University**

**Chairs: Michel Dion, Bell Helicopter**

**A. Bonakdar, Siemens Canada**

**Chairs: Bruno Monsarrat, NRC**

**M. Malavi-Zarandi, NRC**

**Chair: Susan Liscouet-Hanke, Concordia University**

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**Keigan Madean et al**

**McGill U**

**Hassan El Sahely et al**

**ETS-LARCASE**

**Hamidreza Y. Sarvestani et al**

**McGill U**

**Charles Simonneau et al**

**SimuTech Group**

**Bruno Monsarrat et al**

**NRC**

**Andrea Cartile et al**

**Concordia U**

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<tr>
<td>39 - Rapid and reliable solution of parametrized aerodynamics problems by model reduction</td>
<td>81 - Numerical simulation of ice accretion coupled with thermal de-icing using Messinger-based approach</td>
<td>119 - Fracture surface morphology for polymer additive manufactured parts</td>
<td>Keynote: 171 - Additive Manufacturing Process Simulation with ANSYS (continued)</td>
<td>174 - Advanced robot path planning for cold spray additive manufacturing</td>
<td>38 - Certification requirements in the context of the Canadian aeronautical product modification industry</td>
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**Masayuki Yano**

**UTIAS**

**Kevin Ignatowicz et al**

**ETS-LARCASE**

**Hayat El Fazani et al**

**Carleton U**

**Charles Simonneau et al**

**SimuTech Group**

**Manuel Martin et al**

**Giordano Zilembo et al**

**Concordia U**

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<td>55 - Eulerian-Lagrangian CFD model for aircraft ground de-icing by liquid sprays</td>
<td>27 - Additive manufacturing approach for repairing Ti alloy fan blades with severe foreign object damage</td>
<td>107 - Using topological optimization for greater buy-to-fly ratio</td>
<td>157 - Evaluation of Alternative Paint Stripping Methods</td>
<td>93 - A systematic approach to the Changed Product Rule</td>
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**Siavash Hedayati Nasab et al**

**Concordia U**

**Samir Ernez et al**

**ETS-LARCASE**

**Priti Wanjara et al**

**NRC**

**Marija Harvan et al**

**Bombardier Aerospace**

**Anne Fagnan et al**

**NRC**

**Alan Padilla et al**

**Concordia U**

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**Syam Vangara et al**

**McGill U**

**Simon Bourgault-Côté et al**

**Polytechnique Montréal**

**Xinjin Cao et al**

**NRC**

**Ali Ibrahim et al**

**McGill U**

**Gabriel Côté et al**

**NRC**

**Neda Baghalizadeh Moghadam**

**Polytechnique Montréal**
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<td><strong>124 - Freezing of water droplet shedding on different surface wettabilities: numerical analysis</strong></td>
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General Chair CASI AERO 2019 Conference

Éric Laurendeau | Polytechnique Montréal

Dr. Éric Laurendeau is Professor in the Department of Mechanical Engineering at Polytechnique Montréal and Canada Research Chair in Modelling and Control of Unsteady Aircraft Aerodynamics. A graduate from McGill University (B.Eng. 1989), SupAéro (D.E.A, France, 1989) and University of Washington (Ph.D., USA, 1995), his research interests are in the area of Computational Aerodynamics and High-Performance Computing towards the study of aerodynamic flows over aircraft configurations. He is a past-president of the CFD Society of Canada, and is currently a member of Compute Canada Advisory Council on Research as well as Calcul Québec Scientific Committee.

Keynote Speaker

Martine Rothblatt | Unither Bioelectronics/United Therapeutics Corporation

Martine Aliana Rothblatt is an American lawyer, author, and entrepreneur. Rothblatt graduated from University of California, Los Angeles with a combined law and MBA degree in 1981, then began to work in Washington, D.C., first in the field of communications satellite law, and eventually in life sciences projects like the Human Genome Project. She is the founder and Chairwoman of the Board of United Therapeutics.

Urban Mobility Plenary Panellists

Denis Faubert | CARIC

Denis Faubert, who earned his Ph.D. in Laser Physics from Université Laval, is the President and CEO of the Consortium for Aerospace Research and Innovation in Canada (CARIC). He serves on many committees and projects, including the Green Aviation Research & Development Network Board (GARDN), National Optics Institute (INO) and Aéro Montréal. He is also a member of the Selection Committee of Canada’s Networks of Centres of Excellence and the Research Partnership Committee of the Natural Sciences and Engineering Research Council of Canada (NSERC).
Michel Dion | Bell Helicopter

Michel Dion leads a team of technical specialists who are passionate about research and development at Bell. His primary goal is to foster innovation for the next generations of commercial vertical-lift products and to redefine the needs of a future that is at our doorstep. Drones, air taxis and on-demand mobility are some of his team’s favourite topics.

Michel joined Bell in 2006 to head the Integrated Product Team, for the 206L Long Ranger upgrade program. He went on to hold different leadership roles, in product development and R&D activities as part of, among others, consortiums such as CRIAQ, CARIC and GARDN.

Wajid Ali Chishty | National Research Council of Canada

Wajid is a Senior Research Officer and a Technology Leader at the National Research Council Canada. He holds a PhD in Mechanical Engineering from Virginia Tech, a MSE in Aerospace Engineering from University of Michigan and an MBA in Finance from University of Karachi. Wajid has more than 25 years of experience in the areas of gas turbine research and MRO and an additional five years of experience in academia. He has authored many well-cited publications and is a member of a number of national and international professional committees and societies.

José Martin | Transport Canada

Information not available.

Phil Cole | Marinvent

Phil Cole joined Marinvent as VP Business Development in December 2011. Since that date, Phil has also taken up roles of VP Business Development for Marinvent’s Advanced Aerospace Solutions Joint Venture and for Marinvent’s recently launched sister company Certification Center Canada.
HYBRID/ELECTRIC PROPULSION PLENARY PANELLISTS

David Rancourt | Université Sherbrooke

David Rancourt is an assistant professor at the Université de Sherbrooke since January 2017. His research interests is in design of aircraft (aircraft, helicopters, drones), electric propulsion and systems engineering. He is the Director of the Aerospace Engineering Design and Training Institute of Sherbrooke (AéroUdeS). Prior to joining the University of Sherbrooke, David graduated from the Georgia Institute of Technology in Atlanta with a PhD from his research on the development of a new electric propulsion helicopter configuration.

Askin Isikveren | Safran Group

Askin’s 28-year career comprises a broad range of technical specialisations executed in industrial (18 years), academic (5 years) and research institute (5 years) environments. He currently serves as member of the AIAA Aircraft Electric/Hybrid Electric initiative, and, Co-Chair in NATO Science and Technology Organization working groups. Since September 2015 he contributes as Programme Committee Member of the International Council of the Aeronautical Sciences (ICAS).

Philippe Novelli | ONERA

Philippe Novelli has spent most of his carrier at ONERA, the French Aerospace Lab, where he has been working in the field of CFD, combustion and system analysis, as well as research coordination, for various propulsion systems He was also the leader of the alternative fuels group of the Advisory Council for Aeronautic Research in Europe. He joined ICAO’s Environment Branch in July 2012 where he is in charge of sustainable alternative fuels.

Sylvain Larochelle | Pratt & Whitney Canada

Sylvain holds a bachelor’s degree in mechanical engineering from Royal Military College in Kingston and a Certificate in Law from Université de Montréal. He is also Chairman of the Board of Centre de Technologie Aérospatial (CTA) and Aéro21, a board member of Green Aviation Research & Development Network (GARDN), Aero Montreal Innovation Workshop and Technology and Innovation Committee of Aerospace Industry Association of Canada (AIAC).
Catherine Beaudry | Polytechnique Montréal

Catherine Beaudry has a Ph.D. and a M.Phil. in economics from Oxford University. She is a professor at Polytechnique Montréal and holds the Canada Research Chair at Level I on the creation, development and commercialization of innovation. She is the principal investigator of the "Partnership for the Organization of Innovation and New Technologies" (4POINT0), funded by SSHRC and FRQSC. She specializes in economics of science, technology and innovation.

Bruno Agard | Polytechnique Montréal

Information not available.

Yoan Buisson | Stelia Aerospace

Engineer for Airbus Group since 2012 and currently working for one of its subsidiary, Stelia Aerospace Canada. After several years in Operations, Yoan now head of the “4.0 Roadmap” project where he develops Machine Learning and simulation based applications. His goal, through these technologies, is to exploit data so as to improve Stelia’s decision making processes.

Yves Proteau | APN Inc.

Mr. Proteau is also Co-Owner of Umbrella Technologies and Genetik Sport. He also an Administrator of the CEFRIO, SBI Inc and president of the Consortium 4.0 of Laval University. After he got a Bachelor’s and a Master’s degree in Business Administration (MBA), Mr Proteau worked for four years as a consultant for DMR Group. He then started a fourteen-year career at Julien Inc. He began his tenure as Head of ERP Implementation. He became the VP of Production and co-owner of the Company. When he left Julien Inc., he returned to the consultation business for a year before joining his brother, Jean Proteau, in the manufacturing industry in 2004. He became the co-owner of APN in 2005. He is now Co-President of APN. APN has two plant in Canada and 2 in California. APN was honoured to be the first 4.0 technology show case of the Province of Quebec.
Impact of 5G Plenary Panelists

Mark Aruja | Unmanned Systems Canada

Mark Aruja is the Chairman of Unmanned Systems Canada, the national not-for-profit association representing the unmanned systems community. His involvement with USC started with its inception in 2003 and he was elected Chairman in 2015. A 32-year aviation career in the Canadian Armed Forces included assignments as Wing Commander responsible for naval aviation, Director of Space Development, and DG Joint Force Development. He then spent 12 years with Thales before starting his retirement as Chairman of USC.

Pierre Boucher | Innovation ENCQOR


Brunilde Sansò | Polytechnique Montréal

Brunilde Sansò is a full professor of networking in the department of Electrical Engineering of Polytechnique Montréal and a member of GERAD, a world-renowned applied mathematics research center. She has 30 years of experience in telecommunication network optimisation, reliability, performance and design. She leads the LORLAB, a research group dedicated to developing effective applied mathematics methods to the design and performance of wireless and wireline telecommunication networks. In the latest years, her group has tackled the large-scale performance and robustness of the Internet of things and smart-cities telecommunication infrastructure.
Sébastien Vaillancourt | Thales Group

Sébastien Vaillancourt est responsable de programme chez Thales, ainsi que responsable du site d’innovation de Québec dans le cadre du programme ENCQOR pour la recherche et l’innovation dans le secteur des technologies de rupture 5G. Détenteur de baccalauréat en génie ainsi que d’un MBA, il a une vaste expérience en gestion de projets dans différents domaines technologiques. Dans le cadre de projet d’adoption de la 5G Thales développe différentes solutions en lien avec la ville intelligente. Un de ces projets est sa solution de policier connecté qui utilise plusieurs technologies et capteurs, ainsi que l’assistance de drones.

Christophe Bouchaud | Aviation Strategies International

Christophe Bouchaud has always been involved in the field of high technology, bridging the gap between technology, management, and operations within a highly diversified strategic and international context and is a co-author of Global Megatrends and Aviation: The Path to Future-Wise Organizations, ASI Institute Press, Montreal, 2019, and Airport Enterprise Management Centre, A Step towards and Industry Standard, IAP Community of Practice, Montreal, 2018.

2019 Turnbull Lecturer

Honorary Colonel Gerald Haddon | (Ret.)

Mr. Gerald Haddon was appointed Honorary Colonel of the Canadian Forces School of Aerospace Technology and Engineering, 16 Wing Borden, Ontario from October 2010 to April 2014. He is the grandson of Honorary Air Commodore, The Honourable J. A. D. McCurdy, the first British subject to fly a heavier-than-air aeroplane in the British Empire on February 23, 1909 on Bras d’Or Lake, Baddeck, Nova Scotia in an aeroplane called the Silver Dart, which he designed and built with the aid of the members of the Aerial Experiment Association.
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