



Sustainability 2015

International Conference on Environmental Sustainability in Air Vehicle Design and Operations of Helicopters and Airplanes



Tuesday, September 22, 2015

8.15am - 9.30am – Opening Plenary Session @ Fontaine A

Welcome & Keynote Speaker Introductions by Somen Chowdhury, AHS International

- Keynote Address – **The Rotary-Wing Viewpoint: Dr. Cathy Kilmain**, EVP Engineering, Bell Helicopter
- Keynote Address – **Clean Sky Perspectives: Giuseppe Pagnano**, Coordinating Project Officer, Clean Sky
- Keynote Address – **The Engine Viewpoint: Robert Cadieux**, Technical Fellow, Environment and Sustainable Development Manager, Pratt & Whitney Canada

9.30am - 10.00am – Refreshment Break

10.00am - 11.30am – Panel Discussion: “Greener Operations & Design” @ Fontaine A

Moderated by Somen Chowdhury, AHS International

- Steve Csonka (CAAFI) – Better Fuels
- Jeff Cochran (Nav Canada) – Flight Path Optimization
- Dr. Pat Anderson (Embry-Riddle University) – More Electric Aircraft

11.30am - 12.30pm: Lunch

12.30pm - 2.00pm – Technical Paper Session ‘A’

Eco-Design Theme Fontaine C	Tools/Fuel/Operations Fontaine D	Powerplant & Manufacturing Fontaine E
1. Blanche Demaret (ONERA) <i>ONERA and DLR Major Contributions to Reduce Environmental Signature for Rotorcraft</i>	1. Magdalena Tudor (ETS) <i>Performance Database Creation for the Cessna Citation X Aircraft in Climb Using an Aero-propulsive Model Developed from Flight Tests</i>	1. Francois Brophy (P&WC) <i>Aero Engine Emissions and Combustion in the 21st Century</i>
2. Tom Reist (UTIAS) <i>Optimal Aerodynamic Performance of Blended Wing-Body Aircraft Through High-Fidelity Aerodynamic Shape Optimization</i>	2. Meysam Salari (Concordia) <i>Making Trade-Offs Between Quality, Cost And Sustainability In Sustainable Design Using Multi Attribute Utility Theory</i>	2. Kyle Collins (Georgia Tech) <i>Modeling and Requirements Definition for a Hybrid-Electric Powered Helicopter</i>
	3. Alejandro Mendoza (ETS) <i>Altitude Flight Optimization Based Upon A Flown Flight Plan</i>	3. Grigori Ozerski (modification* Inc.) <i>The Density of Soft Magnetic Composite (SMC) in the Stator Core as a Key Factor for Understanding the Behavior of VTOL Electric Propulsion Systems</i>

2.00pm - 2.30pm: Refreshment Break

2.30pm - 4.00pm – Technical Paper Session ‘B’

Eco-Design Theme Fontaine C	Tools/Fuel/Operations Fontaine D	Powerplant & Manufacturing Fontaine E
1. Jeff Fengfeng (Ryerson) <i>Morphing Winglets</i>	1. Alejandro Mendoza (ETS) <i>Weather Extraction and Use for Flight Optimization Algorithms</i>	1. Polina Snugovsky (ReMAP) <i>Green Manufacturing of High Reliability Electronics</i>
2. Graham Potter (Bombardier) <i>Environmentally Focused Aircraft Study</i>	2. Samira Keivanpour (Laval) <i>The Role of Estimation of Residual Life Time In End Of Life Aircraft Components Decision Making</i>	2. Suong Hoa (Concordia) <i>Development of Thermoplastic Composite Aircraft Structures</i>
3. Patrick Chouinard (Sherbrooke) <i>Magneto-Rheological Clutches For Reliable, Lightweight And High Performance Actuation Of Primary Flight Controls</i>	3. Alexandre Rancher (ETS) <i>Sustainability in Rotary-Wing Aircraft Production, Operation and End-Of-Life: A Method to Evaluate the Eco-Efficiency of Aircraft Remanufacture and Upgrade</i>	3. Priti Wanjara (NRC) <i>Characteristics of Additive Manufacturing</i>

4.00pm - 5.30pm – Panel Discussion: “Community Noise” @ Fontaine A

Moderated by Doug Boyd, NASA

- Reiner Heger (Airbus Helicopters)
- Steve Colavincenzo (Bombardier)
- Dr. John Leverton (AHS International)
- Dan Brown (Honeywell Engines)

Wednesday, September 23, 2015

8.30 am - 10.00am – Technical Paper Session ‘C’

Eco-Design Theme Fontaine C	Tools/Fuel/Operations Fontaine D	Powerplant & Manufacturing Fontaine E
1. Antonio Visingardi (CIRA) <i>Design Of A Natural Laminar Flow-Rotor In Forward Flight Conditions</i>	1. Valerie Patreau (CIRAIG) <i>Implementing Eco-Design Within The Helicopter Industry</i>	1. Justin Rivera (Bell Helicopter) <i>Idiosyncrasies Of Green Manufacturing</i>
2. Shahriar Khosravi (UTIAS) <i>Aerostructural Optimization Of Winglets</i>	2. Jean-Pierre Theret (Dassault Systemes) <i>LCA For Aircrafts & Rotorcrafts: Addressing The Challenges Of a Thousand Parts!</i>	2. Brigitte Cheftel-Py (Turbomeca); <i>Next Generation Of Greener Turbohaft Engine</i>
3. Dinesh Harursampath (IISC) <i>A Multifunctional Composite System For Rotorcraft Structures - An Investigation Of Energy Harvesting And Storage Characteristics</i>	3. Boyd Rodeman (Textron Aviation) <i>Aircraft Approval of Alternative Fuels</i>	3. Pascal Genevieve (Bombardier Aerospace) <i>Second Generation Biofuel Influence on a Business Aircraft Life Cycle Analysis</i>

10.00am - 10.30am – Refreshment Break

10.30am - 12 noon – Panel Discussion: “Alternative Fuels” @ Fontaine A

Moderated by Steve Csonka, CAAFI

- Steve Fabijanski (Agrisoma)
- Misha Valk (SkyNRG)
- Mena Salib (Air Canada)
- Murray Thomson (University of Toronto)

12.00 noon - 1.30pm: Lunch

1.30pm – 3:00pm – Technical Paper Session ‘D’

Eco-Design Theme Fontaine C	Tools/Fuel/Operations Fontaine D	Powerplant & Manufacturing Fontaine E
1. Glenn Pinsent (Bristow Helicopters) <i>Sustainability - Statutory Compliance to Reduction of Carbon Footprint</i>	1. Steve Csonka (CAAFI) <i>Technical Review of the Industry Framework for the Qualification and Use of Alternative Fuels</i>	1. Kyle Collins (Georgia Tech) <i>Propulsion System Sizing Methodology For Hybrid Electric Rotorcraft</i>
2. Neal Willford (Textron Aviation) <i>Airplane Sizing For Electric Propulsion</i>	2. Dan Brown (Honeywell) <i>Regulation And Reduction Of Aircraft Noise Levels</i>	2. Russell Stratton (P&WC) <i>Integrating Sustainable Development Into An Organization’s DNA</i>
3. Karim Zaghib (Hydro-Quebec) <i>Lithium Ion and Beyond for Aerospace: Challenges and Opportunities</i>	3. Charles Murphy (Metron) <i>Fast Computation Modelling</i>	3. Sylvester Ashok (Georgia Tech) <i>Performance Analysis And Design Of A Hybrid VTOL Unmanned System</i>

3.00pm - 3.30pm: Refreshment Break

3.30pm - 5.00pm – Panel Discussion: “Additive Manufacturing – Green Perspectives”@ Fontaine A

Moderated by Francois Richard (P&WC)

- Dr. Fiona Zhao (McGill)
- Cyrille Chanal (FusiA)
- Mark Kirby (Renishaw)
- Kathleen Oldham (Bell Helicopter)

Thursday, September 24, 2015

8.30 am - 10.00am – Technical Paper Session ‘E’

Eco-Design Theme Fontaine C	Noise & Tools Fontaine D	Tools & Operations Fontaine D
1. Oliviu Gabor (ETS) <i>Preliminary Analysis Of The Lip Wing System For The ALIPTERA VTOL Concept Aircraft</i>	1. Philip McCarthy (UTIAS) <i>Experimental Aeroacoustic...Landing Gear</i>	1. Jose Muniz (McGill) <i>Comparison of Chemical Stripping and Thermal Decomposition for the Removal of Cr-Containing Coatings Present on Aircraft Al Components</i>

2. Marc-Andre Theberge (UTIAS) <i>Passive Control of Horseshoe Vortices at Wing-Body Junctions</i>	2. Ken Brentner (Penn State) <i>Tools for Development and Analysis of Rotorcraft Noise Abatement</i>	2. Torsten Müller (Fraunhofer) <i>BIRD Eco Design Tool</i>
3. Hamidreza Zahedi <i>Aircraft Disassembly: Risks, Challenges and Opportunities Analysis</i>	3. Mahdi Sabaghi (Poly) <i>Product Sustainability Evaluation (PSE): A Tool To Measure Sustainability Of The Products</i>	3. Jose MUNIZ (McGill) <i>Investigating the Feasibility of Recycling Al Alloy Components Using Cold Comminution and Sintering</i>

10.00am - 10.30am – Refreshment Break

10.30am - 12 noon – Panel Discussion: “Sustainability & Corporate Responsibility” @ Fontaine A

Moderated by Bruce Parry (Bombardier)

- Glenn Pinsent (Bristow Helicopters)
- Dr. Andrew Clifton (Rolls-Royce)

12.00 noon - 1.00pm: Lunch

1.00pm - 2.30pm – Panel Discussion: “The View from the Regulators” @ Fontaine A

Moderated by James Corrigan (AHS Montréal-Ottawa Chapter)

- Ted Thrasher (ICAO)
- Rebecca Cointin (FAA)
- Tetsuya Tanaka (ICAO)

2.30pm - 3.30pm Closing Plenary @ Fontaine A

Remarks by Somen Chowdhury, AHS International

Organized by AHS International’s Montréal-Ottawa Chapter

Somen Chowdhury – Conference Technical Chair
James Corrigan – Conference Administrative Chair
Michel Dion – Chapter Vice-President

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