

UnmannedCanada

2017

CONFERENCE & TRADE SHOW

November 1st - 3rd
Toronto, Canada

CELEBRATING 15 YEARS as Canada's
Conference for Unmanned Vehicle Systems



TUESDAY, OCTOBER 31, 2017

1730-2000	<i>Registration Open - Name Badge Pick Up Available</i>
18:30 - 20:00	Annual General Meeting

WEDNESDAY, NOVEMBER 1, 2017

0730 - 1930	<i>Registration Open</i>
07:30-08:30	<i>Breakfast</i>
08:30 - 9:00	Welcome to UnmannedCanada 2017
9:00 - 10:30	Transport Canada Felix Meunier, Director UAS Task Force, Transport Canada

	Ryan Johnson, Program Manager, Regulatory Planning & Program Implementation - UAS Task Force, Transport Canada Ryan Coates, Chief, Policy, Regulations & Stakeholder Engagement - UAS Task Force, Transport Canada		
10:30 - 11:00	<i>Coffee Break</i>		
11:00 - 12:00	UTM Panel Moderator: Paige Cutland, Director Business Development, Kongsberg Geospatial Ltd. Brian Guimond, Manager, Military Operations & Unmanned Aircraft Systems, NAV Canada James Davis, Director of Business Development, Sagetech Corporation Michael Hoodspith, Director, Strategy & Advanced Systems, IDS North America Brenden Hedblom, Associate Business Development Manager, Thales ATM Zlatko Zahirovic, Sr Manager, Bell Mobility WNCE Dr. Marco Tantardini, CEO, DronSystems Ltd.		
12:00 - 13:30	<i>Lunch</i>		<i>Women & Drones Luncheon - Thornhill Room</i>
13:30 - 14:00	SMALL BUSINESS FOCUS - TRAINING - Chair: Eric Edwards Chair: Mike Campbell	CERTIFICATION - Chair: Phil Cole Chair: Henry Jaffe	COUNTER UAS WORKSHOP - Chair: Henry Jaffe
	Small Operators Update on Regulations Eric Edwards, President, Xiphos Systems Corp. Michael Campbell, Chief Photographer, ckmmphotographic Kate Kienapple, Director of Operations, Coastal Drone Co. Frank Brzobohaty, General Flight Standards Inspector UAS Task Force, Transport Canada	Certification Philip Cole, VP Business Development, Marinvent John Maris, President, Cert Center Canada Theodore Wierzbanski, Chairman, ASTM F38 UAS Standards Committee, ASTM Ron Campbell, Aviation Advisor, SGS Aviation Compliance	Drone Countermeasures: Know Your Needs Before Buying a Solution Ehsan Monfared, Associate, YYZlaw Dr. David Weinberg, Principal, Practical Risk David Domoney, Blueforce UAV Consulting Moderator: Henry Jaffe, CEO, Periculum Labs
14:00 - 14:30	Smart UAV Operators - Fast Focus George Gooderham, Pilot, SceneAereo Unmanned		
14:30 - 15:00	Marketing Magic: 18 Tools & Tips for UAS Industry Kristin Kozuback, Director of Communications, AirMarket		
15:00 - 15:30	<i>Coffee Break</i>		
15:30 - 16:00	UAV Success Cases: The Human Element in the	How Implementing the Wyvern Exact Standard	Advances in Airworthiness, Safety, and Reliability
			Drone Countermeasures: Know Your Needs Before

	Unmanned Industry Yifei Zhao, Operations Director, AlteX UAV Technologies	Based on ICAO 10019 Can Benefit Small Operators Mike Venables, Operations Manager / Chief Pilot, Aero-Photos.ca	Testing of Drones Don Toporowski, General Manager, University of Ontario Institute of Technology	Buying a Solution Charles Vidal, Aerial Robotics Projects Lead, National Research Council
16:00 - 16:30	Close Encounters of the FIRST Kind. David Cooke, Chief Pilot, CANADA	Prequalification and Training Site & the Establishment of BVLOS and SOPs Marc Moffatt, Director General, UAS Centre of Excellence	Investigation of Virtual Flight Testing and Certification System on UAV design/development at MIMS Laboratory, Ryerson University Dr. Joon Chung, Professor, Ryerson Author: YoungJoon Cha, Ryerson	Dr. David Weinberg, Principal, Practical Risk Moderator: Henry Jaffe, CEO, Periculum Labs Garret Warren, Platform Design, Version 2.0 Inc. Dr. Stephen Eisenhower, Chief Scientist, Periculum Labs
16:30 - 17:00	Enabling Remotely Piloted Aircraft Systems (RPAS) into your Commercial Environment Ron Campbell, Aviation Advisor, SGS Aviation Compliance	The Establishment of a Quebec UAS Cluster Michel Cordeau, Business Development Coordinator & Quebec UAS Cluster Director, Unmanned Aerial Systems Centre of Excellence	BVLOS Around the Globe: How Canadian Regulation Stacks Up Aaron Bailey, Head of Business Development, Iris Automation	
1700-1730	Panel - SMAO Q&A	Student Three-Minute Thesis Presentations	Edmonton International Airport: A Test Case in the Integration of Manned and Unmanned Aviation Jordan Cicoria, Managing Director, AERIUM Analytics	

THURSDAY, NOVEMBER 2, 2017

0730 - 1800	<i>Registration Open</i>
07:30- 08:30	<i>Breakfast</i>
08:30-09:00	Honourable Brad Duguid, Minister of Economic Development and Growth Ontario Honourable Brad Duguid, Minister of Economic Development & Growth, Province of Ontario
09:00 - 09:30	Safe Skies, Open for Innovation: How Technology Will Help Solve Policy Challenges Brendan Schulman, Vice President, Policy & Legal Affairs, DJI
09:30 - 10:00	Mr. David Kroetsch - Founder and CTO Aeryon Labs David Kroetsch, Founder & CTO, Aeryon Labs
10:00 - 17:00	<i>Exhibitor Hall Open</i>

10:00 - 10:30	<i>Coffee Break</i>			
10:30 - 11:00	TC ADM Safety & Security Aaron McCrorie, Director General, Civil Aviation, Transport Canada			
11:00 - 12:00	AI Ontario Panel Bill Mantel, Assistant Deputy Minister, Strategic Programs Development & Delivery Office, Ontario Ministry of Economic Development and Growth Wally Trenholm, Founder & CEO, Sightline Innovation Jeremy Wang, Chief Technology Officer, The Sky Guys			
12:00 - 13:30	<i>Lunch</i>			
13:30 - 14:00	Chair: Diana Cooper The Canadian Legal Landscape for addressing Drone Security Threats Moderator: Ehsan Monfared, Associate, YYZlaw Edward Marrocco, Lawyer, Stockwoods LLP Nader Hasan, Lawyer, Stockwoods LLP	Chair: Frederique Pivot 3-D UAV Path Planning in a Cluttered Environment using PSO Joshua Furtado, Graduate Student, University of Toronto Institute for Aerospace Studies	Chair: Curtis Parks A Method for Quantifying the Spatial Accuracy of LiDAR Data Gathered on a UAV Platform Chris Polowick, General Manager, Technology Development, RME Geomatics	Chair: Mark Aruja Initial BVLOS Flight Operations at the Foremost UAS Test Range Doug Hanna, Range Manager, Foremost UAV Range
14:00 - 14:30	Kevvie Fowler, Partner, Cyber Risk, Deloitte	Unmanned Aircraft System Collision Risk Assessment Bruno Artacho, Graduate Student, Memorial University of Newfoundland	Operational Guideline Development to Support the Integration of Unmanned Aerial Systems and Geomatics into Search and Rescue (SAR) Operations Wade Hawkins, Faculty, Southern Alberta Institute of Technology	The Development of a BVLOS Operation Methodology to Permit Long-Distance Unmanned Surveys of Linear Features Chris Polowick, General Manager, Technology Development, RME Geomatics
14:30 - 15:00	Transportation Appeal Tribunal of Canada Charles Sullivan, Vice-Chair, Transportation Appeal Tribunal of Canada	A Combined Method for Vegetation Classification Based on Visible Bands from Unmanned Aerial Vehicles (UAV) Images: A Case Study for Invasive Wild Parsnip Plants Jingyi Liu, Student, Queen's University	High-performance Computing Architecture for Real-time Image Data Exploitation aboard Unmanned Aerial Systems Stephan Blokzyl, Researcher, Chemnitz University of Technology	CE Establishment of BVLOS Operations and SOPs Marc Moffatt, Director General, UAS Centre of Excellence
15:00 - 15:30	<i>Coffee Break</i>			
15:30 - 16:00	Chair: Diana Cooper	Chair: Charles Vidal	Chair: Frank Decker	Chair: Duncan Elliott

16:00 - 16:30	Regulatory Overview: Canadian & US Perspectives Moderator: Diana Cooper, SVP of Policy & Strategy, PrecisionHawk Brendan Schulman, Vice President, Policy & Legal Affairs, DJI Doug Johnson, VP Technology Policy, CTA Kerry Moher, VP of Business Development, Fresh Air Educators Ryan Coates, Chief, Policy, Regulations & Stakeholder Engagement - UAS Task Force, Transport Canada	The Design and Flight Testing of a BVLOS - UAV System for Long Duration Power Line Mapping Alastair Jenkins, CEO & President, Aethon Aerial Solutions Inc. The Evolution of an Unmanned Aerial Vehicle (UAV) Inspection Program Tim Trebilcock, Assoc. Engineer / Scientist / Tech Officer, Ontario Power Generation	Unmanned Systems for Sub-surface Mapping and the Applications of this Technology Dr. Greg Baiden, CEO, Penguin Automated Systems Inc. Artificial Hype for Artificial Intelligence? Reality and Opportunity for AI and Drone Data Analytics Jeremy Wang, Chief Technology Officer, The Sky Guys	BVLOS - An Operational Perspective John Saunders, President, Tier 1ISR Inc. Real-time Results from NRC's Investigations into SAA Technologies Author: Cyrus Minwalla, Research Officer, NRC Canada Kris Ellis, Senior Research Officer, NRC
16:30 - 17:00	Anatomy of a Crash Anne-Sophie Riopel-Bouvier, Vice President, Air Operations, EXO Tactik Air Support	Three Different Ground Control Station Layouts for Military UAS Operations Dr. Ming Hou, Defence Scientist, Defence R&D Canada Unmanned Air Systems: A Tool in the Evaluation of Novel Aircraft Configurations Afzal Suleman, Professor and Canada Research Chair, University of Victoria - Center for Aerospace Research	Evaluation of Icephobic Coatings for Small Unmanned Air Systems Dr. Ali Benmeddour, Senior Research Officer, National Research Council Canada Implementing Drone Technology into Existing Business Brett Danks, Head UAV Instructor, Class 3 Flight Instructor, Waterloo Wellington Flight Centre	A Review of Testing Results from BVLOS Trials and Industry Requirements Going Forward Sean Greenwood, President, Canadian UAVs Status Update on ASTM UAS/RPAS Standards Theodore Wierzbanski, Chairman, ASTM F38 UAS Standards Committee, ASTM
17:00 - 17:30	A General Energy Based Approach to Preliminary Aircraft Sizing Nathan Davidson-Pilon, Systems Engineer EIT, Microdrones LTD			
17:30-19:30	<i>Networking Reception</i>			

FRIDAY, NOVEMBER 3, 2017

07:30 - 16:00	<i>Registration Open</i>
07:00 - 08:00	<i>Breakfast</i>
08:00 - 08:15	Remarks from USC Chairman Mark Aruja, Chairman of the Board, Unmanned Systems Canada

08:15 - 8:30	Defence Policy Review Implications for Unmanned Systems Col. Shayne Elder			Personal Airborne Transportation Moderator: Barrie Kirk, Executive Director, Canadian Automated Vehicles Centre of Excellence Sasha Rao, Partner, Maynard Cooper and Airbus outside legal counsel on Project Vahana Travis Mason, Airbus	
08:30 - 9:30	Army/Navy/RCAF Update Simon Nadeau, Naval Officer, DND Capt. Matthew Becker, Project Director Unmanned Aerial Systems Recapitalization Project; Deputy Project Director Intelligence, Surveillance and Reconnaissance Modernization Project, Canadian Army – DLR 2-5-2 Maj. Mark Shelden, Canadian Forces Aerospace Warfare Centre, 8 Wing Trenton				
09:00 - 11:30	<i>Exhibitor Hall Open</i>				
0930-1000	USC Student Competition Briefing				
10:00 - 10:30	<i>Coffee Break</i>				
10:30 - 12:00	Federal Panel: Federal Initiatives Supporting the Unmanned Systems Sector Chris Baird, Senior Director, Build in Canada Innovation Program, Public Services and Procurement Canada Vincent Landreville, Procurement Manager, Public Services and Procurement Canada Charles Boisvert, Trade Commissioner , Global Affairs Canada Sivaraj P., Regional Director, Office of Small and Medium Enterprises (OSME) Henrique Santos, ITB Deputy Director - Air and Space, Innovation, Science & Economic Development Moderator: Derek Scott, Vice President, Program Development, PAL Aerospace			Innovative Applications Speaker: Barrie Kirk, Executive Director, Canadian Automated Vehicles Centre of Excellence Moderator: Barrie Kirk, Executive Director, Canadian Automated Vehicles Centre of Excellence Fahad Khan, City of Toronto Chris Matthews, ITS Technical Advisor, Innovation & Planning Unit, Ministry of Transportation of Ontario	
12:00 - 12:30	Unmanned Systems Canada Awards Presentation				
12:30 - 13:30	<i>Lunch</i>				
13:30 - 14:00	Chair: Paul Bennett Assessment of UAS Borne Optical Sensors in Agricultural Applications Kim Hodge, Researcher, Agriculture and Agri-Food Canada	Chair: Kris Ellis Energy Harvesting for Unmanned Air Systems Dr. Jenner Richards, President, Nebula UAV Systems	Chair: Eric Edwards Use of a Drone to Deploy Sensors on Transmission Power Lines Matthieu Montfrond, Engineer - Drone Applications Project Leader, Hydro-Québec	Chair: Siu O'Young Topography Above and Below the Water: USV Bathymetry Combined with UAV LiDAR Curtis Parks, General Manager, RME Geomatics	Developing a National BVLOS UAS Cluster, Strategy & Infrastructure Moderator: Mark Aruja, Chairman of the Board, Unmanned Systems Canada

Author: Anne Smith,
Agriculture and Agri-Food
Canada, Science &
Technology Branch, Regina,
SK

Author: Dustin Ostrander,
Agriculture and Agri-Food
Canada, Science &
Technology Branch,
Lethbridge, AB

Author: Luke Bainard,
Agriculture and Agri-Food
Canada, Science &
Technology Branch, Swift
Current, SK

Research Institute (IREQ)

Moderator: William Jefferies,
LOOKNorth
Dennis Nazarenko, Senior
Consultant, LOOKNorth

14:00 - 14:30

**3D Iceberg Profiling Using
Unmanned Aerial Vehicles
Imagery**

Author: Somayeh Yavari,
Postdoctoral Fellow,
Department of Electrical
Engineering, Memorial
University of Newfoundland
Joseph Chamberland,
Director of Operations
(Ottawa) , C-Core

**Applications for Passive
Variable Pitch Propellers
on Tactical SUAS**

Andrew Kondor, President,
Aerovate Inc.

**Flying Sensors: The Silver
Bullet Solution for Turbine
Blade Maintenance**

Jacob Hrycak,
Owner/Operator, Sky High
Images

**UAS to GIS for Timely,
Shared and Enhanced
Situational Awareness**

Pierre Bilodeau, Defence and
Security Industry Manager,
Esri Canada

14:30 - 15:00

**A Study of the Potential of
Satellite and UAS Based
Pipeline Monitoring**

Joseph Chamberland,
Director of Operations
(Ottawa) , C-Core

**UAV Systems Comparison
(Planes, Frames and
Autopilots)**

Robert Lefebvre, Managing
Director, NOVAerial Robotics

**EASA Draft Regulation
Laying Down Rules as
Regards Unmanned
Aircraft Operations - One
Regulation to Rule Them
All ?**

Alexandre Cassart, Lawyer,
Lexing Belgium

**Terrain Following and
Avoidance for Geophysical
Survey Missions with
Uninhabited Aerial
Vehicles**

Salman Shafi, , Carleton
University

15:00 - 15:30

**Right to Fly Beacon with
Digital Credentials and
Collision Avoidance**

Brian Romansky, Product
Manager, ESCRYPT

**Research Validating Digital
Flight Planning Tools:
Shaping regulations and
perceptions**

Lindsay Mohr, Founder &
CEO, Airmarket

**Magnetic Grooming and
Compensation of UAVs for
Aeromagnetic Data
Collection**

Tomas Naprstek, Research
Council Officer, National
Research Council of Canada

15:30 - 16:00

16:00 - 16:30	<i>Coffee Break</i>	
16:30 - 17:00		Developing a National BVLOS UAS Cluster, Strategy & Infrastructure Moderator: Mark Aruja, Chairman of the Board, Unmanned Systems Canada Moderator: William Jefferies, LOOKNorth Dennis Nazarenko, Senior Consultant, LOOKNorth
1730-1930	Networking Event - 3 Brewers Richmond Hill (Additional Cost)	