



UNMANNED CANADA
2019

NATIONAL CONFERENCE + TRADE SHOW
OCT30 - NOV1 2019 // OTTAWA, ON

#UC19Ottawa

CONFERENCE PROGRAM



TUESDAY OCT29

1700// ANNUAL GENERAL MEETING

WEDNESDAY OCT30

BREAKFAST

2019 RPAS OPERATIONS - PANEL

MODERATOR// DENNIS NAZARENKO, LOOKNORTH

- 100 Pilots and Counting: Dan Juhlin, RPAS Operations Manager, Government of Alberta
- BVLOS Operations in the Niger Delta: Mike Meakin, Technical Solutions Engineer, Kongsberg Geospatial
- UAVs in Public Safety - Where are we today - and what's the future?: Romeo Durscher, Director of Public Safety Integration, DJI
- TC's Operational BVLOS Program - 2019 Flight Ops and Future Plans: Marty Rogers, Chief RPAS Operations Transport Canada
- London Drugs: Medical Deliveries: Zahid Aslam, eCommerce Manager, London Drugs
- Fostering Growth of an Industry: LOOKNorth's Experience: Paul Adlahka, Executive Director LOOKNorth

NEW MOBILITY - PANEL

MODERATOR// BARRIE KIRK, EXECUTIVE DIRECTOR, CANADIAN AUTOMATED VEHICLES CENTRE OF EXCELLENCE

- L5 CAV Test Track: Kelly Daize, Director Ottawa Autonomous Vehicle Program, Invest Ottawa
- Status And Roadmap For 5G In Canada: Eric Smith, Vice President, Regulatory Affairs, Canadian Wireless Telecommunications Association
- Podzero: Chris Keefe, Director, Autonomous Programs, Aurigo Canada
- Status And Roadmap For TC's Regulations For CAVs: Andrew Phillips, Manager, Motor Vehicle Safety, Transport Canada
- CAA's Research And Education Related To CAVs: Jason Kerr, Senior Director, Govt Relations, Canadian Automobile Association

**OVERVIEW OF POLISH RPAS INDUSTRY
DARIUSZ WERSCHNER, PRESIDENT, POLISH CHAMBER OF UNMANNED SYSTEMS**

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OPERATOR FORUM

MODERATOR// MIKE CAMPBELL, CHIEF PHOTOGRAPHER, CKMM PHOTOGRAPHIC

- Building A Fit-For-Purpose SMS For UAV Operations: Ron Campbell, Aviation Advisor, SGS Aviation Compliance
- Key Legal Issues Facing The RPAS Industry - Kathryn McCulloch, Partner, Dentons Canada LLP
- Flight Reviews And Standardization: Grant Caswell, Owner, Caswell Aviation Ltd.
- USC Flight Safety Program: Anne-Sophie Riopel, USC Flight Safety Officer, Co-Founder Exotactik
- RPAS Flight Safety: NAVCanada
- Lessons Learned From An RPAS Accident Investigation: Tzuki Friedman, Director Engineering, Skyx
- Challenges And Lessons Learned - First Year Of RPAS Operations: Dorothy Voyageur, CEO Voyageur Technologies
- Six Months Of Regulations - Howgozit: Mike Campbell, Principal, CKMM Photographic (Open Mike)

COUNTERMEASURES TRACK

MODERATOR// DAVE DOMONEY, BLUEFORCE UAV CONSULTING

- Drone Detection And Classification With An AI Machine Learning Scheme: Dr. Iraj Mantegh, National Research Council
- Case Study - Providing Detection For Abbotsford Airshow 2019: Brian Fentiman, CTO Blueforce UAV Consulting
- Drone Detection And Mitigation - There Isn't And Won't Be A Perfect Solution: Dr. Peter Jones, Version 2.0
- Drone Countermeasures - Evolving With The Threat: Rick Whittaker, CEO Airshare
- Drones - Threat From Above: Kieran Gubbins, CTO IDS North America
- Dronesteria! - The Risks And Technology 'Solutions': Mark Espenat, R&D Project Manager, DRDC Centre For Security Science

DATA ANALYTICS AND IMAGE PROCESSING

MODERATOR// MICHAEL BARAN, PRACTICE LEAD DEFENCE AND AEROSPACE, BECKER-CARROLL

- Automated Spotting And Monitoring Of Right Whales With Real-Time Unsupervised Learning: Alan Parslow, President Deepvision
- Pushing The Boundaries Of RPAS And Digital Decision Making In Offshore Oil And Gas: Trevor Bergmann, CEO AeroVision Canada
- Application Of RPAS For Automation Of Migratory Bird Counting: Brendan Ooi, Carleton University
- Powerful Drone Imagery Processing And Analytics With ArcGIS: Pierre Bilodeau, ESRI, Christopher Patterson, ESRI
- Ground Control Points For RPAS Mapping: A Review And Assessment Of Best Practices: Dr. Frederique Pivot, Athabasca University
- Real World Challenges Of AI In Vision Applications: Dany Longval, Vice President Sales, Teledyne Lumenera

// EXHIBITS OPEN// NETWORKING RECEPTION

THURSDAY OCT31

BREAKFAST

**KEYNOTE PRESENTATION:
MICHAEL KEENAN, DEPUTY MINISTER,
TRANSPORT CANADA**

**USC STUDENT COMPETITIONS:
MIKE ESPENANT, CHIEF JUDGE, STUDENT UAS COMPETITION**

**TRANSPORT CANADA RPAS TASK FORCE
CHAIR// FELIX MEUNIER, HEAD RPAS TASK FORCE**

- Global Regulatory Update
- VLOS sUAS Regulations Update: Statistics and Observations. BVLOS way-ahead
- Airport Incursions (NAVCANADA presentation) Mr. David Sheppard, Assistant Vice President, Operational Support
- RPAS Traffic Management: RTM Action Team, and, Introducing the National RTM Roadmap: TC and NAVCANADA
- International Regulations and Standards: Mr. John Walker, Vice-chair JARUS Industry Stakeholder Consultation Body and Chairperson ISO TC20 SC16 UAS Committee
- ASSURE, the FAA's Center of Excellence for Research - How to get involved: Col (ret'd) Stephen Luxion, ASSURE Associate Director

WOMEN IN DRONES/STEM LUNCHEON AND PANEL DISCUSSION

**MODERATOR// MS. CLARE BECKTON, LLB, EXECUTIVE IN
RESIDENCE, CENTRE FOR RESEARCH AND EDUCATION ON
WOMEN, CARLETON UNIVERSITY**

PANELISTS// Kate Klassen - Director USC-STC Aviation/RPAS Trainer, Coastal Drone, Erica Carrasco - Emerging Tech Lawyer, Partner, Field Law LLP, Sylvie Lemay - ATC RPAS Specialist, NAVCANADA, Nilani Thanapal, Electrical Eng/Computing Science, University of Toronto

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RTM/UTM ENABLING BVLOS

**MODERATOR// EUGENE HOEVEN, PRESIDENT,
EHA MANAGEMENT CONSULTING**

- Realizing Fully Interoperable Nationwide UTM Systems: Steve Willer, Business Development Manager, Airmap
- Method of Tracking Mode A/C Transponders with Passive Receivers: Dr. Yake Li, Seamatica Aerospace
- Provision of UTM Services - Lessons learned from an International Perspective: Laurent Huenaeerts, VP and General Manager Unify
- Data and Software - the Fuel for Urban Skyways: Ayaan Haida, Lead Engineer, Air Matrix
- Beyond BVLOS - The Age of the Autonomous Drone: Niall McCallum, Systems Specialist, SkyX
- Canadian Plans for Integrating UTM & 4G Capabilities - Lindsay Mohr, Air Market and Denis Niles, Telus

THE WAY FORWARD FOR UTM: ADDRESSING THE CHALLENGES TO REALIZING BVLOS OPERATIONS - PANEL

**MODERATOR// EUGENE HOEVEN, PRESIDENT,
EHA MANAGEMENT CONSULTING**

- Paige Cutland, Vice-President, Sales and Marketing, Kongsberg Geospatial
- David Sheppard, NAVCANADA, Assistant Vice President, Operational Support
- Denis Niles, Senior R&D Lead for Autonomous Vehicles and RPAS, Telus
- Christian Ramsey, President, uAvionix Corporation
- Shawn Sparling, Vice-President Sales, Nokia
- Ryan Johnson, Program Manager, Operations and Standards, RPAS Task Force, Transport Canada
- Frank Matus, Director Digital Aviation Market Development, Thales

BVLOS USE CASES: FIRST RESPONDERS

MODERATOR// PHILIP REECE, CEO INDRO ROBOTICS.

- RPAS For the Fire Services: Michael Hoffman, Studio Eh Productions
- How thermal imaging is helping public safety agencies save lives: Brett Kanda, UAS BD Manager, FLIR Inc.
- Operational Concept for sUAS in Nuclear Emergency Response: Richard Fortin, Geological Survey of Canada, Natural Resources Canada
- Fire Service applications: Scott Wilkinson, Winnipeg Fire Academy
- BVLOS and First Responder Operations: Mike Nolan, Chief Renfrew County Paramedics
- Policing applications: Nate Ormsby, Ontario Provincial Police
- Mike Slatter, Deputy Chief, Hastings-Quinte Paramedic Services

BVLOS USE CASES: INDUSTRIAL INSPECTIONS AND SURVEYING

MODERATOR// MICHAEL COHEN, CEO INDUSTRIAL SKYWORKS

- BVLOS Operations for Forest Survey Data Capture and Analytics: David Loydon, Terra Sense Analytics Ltd.
- Urban BVLOS for Municipalities to Reduce Costs and Taxes: Chris Healy, INFlight Data
- Canopy Nitrogen Weight retrieval using UAV-based images in wheat and corn fields: Hwang Lee, University of Western Ontario (student paper)
- Development of a Cross-Border Bridge Inspection Utilizing a Remotely Piloted Aircraft System at the Ogdensburg-Prescott International Bridge: Brendan Ooi, Carleton University (student paper)
- Spectral Analysis of the Magnetic Field Generated by a Brushless Direct Current Electromagnetic Motor and the Implications for UAV-Borne Aeromagnetic Surveying: Callum Walter, Queens University (student paper)
- Using UAS to Track Endangered Bison in Northern Alberta: Jeff Voyageur, UAS Division Manager, Voyageur Technologies
- Drones for Non-destructive testing: Courtland Penk, Osprey Integrity
- Resolving the Conflict between Ship Design and UAV Launch and Recovery Deck Limits: Dr. Bernard Ferrier, Head Dynamic Interface Lab, NAVAIR

// EXHIBITS OPEN// NETWORKING RECEPTION

FRIDAY NOV1

BREAKFAST

FEDERAL PROCUREMENT

MODERATOR// MARC MOFFATT, CED ALMA

- RCAF RPAS Procurement Update: Major Jason Furlong, Directorate of Air Requirements
- RCN RPAS Procurement Update: Commander Chris Taitt, Director Naval Requirements
- United States Navy/USMC Procurement: Mr. Robert Ernst, Chief Engineer, Tactical Unmanned Systems, NAVAIR
- Industrial and Technological Benefits Program: Henrique Santos, Deputy Director ITBs, ISED
- Innovation and ITBs: Denean Tomlin, ITB Manager, Peraton

USC AWARD PRESENTATIONS

SATCOM: WHAT YOU NEED TO KNOW - PANEL **MODERATOR// COL (RET'D) ANDRE DUPUIS, PRESIDENT, SSSL SOLUTIONS**

- Roland Renner, VP Business Development, Hunter Communications
- Sunil Chavda, Director New Satellite Systems Development Telesat
- Ali Safieddin Safavi-Naeini, Director, Centre for Intelligent Antenna and Radio Systems (CIARS), University of Waterloo
- Campbell Marshall, Vice-President, International Market Development and Public Policy, Omnispace
- Dylan Browne, Head of Government and Maritime Business, OneWeb

UC20 CALGARY INTRODUCTION

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ELECTRIFICATION - PANEL

MODERATOR// DR. ERIC MCCALLA, ASSISTANT PROFESSOR DEPARTMENT OF CHEMISTRY, MCGILL UNIVERSITY
MODERATOR// TREVOR BERGMANN, CEO, AEROVISION

- The Challenges of Electrification: Adrian Sfetcu, Bell Helicopter
- Improving your Battery Performance: Kostya Khomutov, CEO, GBatteries
- Fuel Cell technologies for RPAS: Thomas Jones, Director UAV/Aerospace Technology, Plug Power
- Drone Flight Management Systems Enabling One to Many: Dr. Steve Eisenhower, Chief Scientist, Periculum Labs
- Our Journey to Safe and Legal Drone Operations Over People: Avi Lozowick, Vice President, ParaZero Drone Safety Systems
- Aerial Robotics: Inspection and Maintenance Contact-based task deployment for UAS: Charles Vidal, Research Engineer, National Research Council
- Risk Analysis of BVLOS Flight Trials- Development of the LOOKNorth Testbed: Bill Jefferies, Dennis Nazarenko, LOOKNorth, Mike Hoodspith, Periculum Labs.

Come Learn How Canadians Do
#GoodDroneWork

ENABLING BVLOS

MODERATOR// JORDAN CICORIA, AERIUM ANALYTICS

- Development of a Robust Pilot Control Handover System: Salman Shafi, Carleton University
- Quantitative Air to Air Collision Risk Assessment: Dr. Siu O'Young, Seamatica Aerospace
- Evaluating Parachute Recovery Systems: Josh Ogden, CEO Aerial Vehicle Safety Solutions
- RPAS Software Certification: John Mannarino, President, Mannarino Systems and Software Inc.
- From SFOCs to Routine Operations - Lessons Learned from VLOS Operations: Tzuki Friedman, CTO SkyX
- Obtaining BVLOS Approvals using a DAA System in Five Countries: Alex Harmsen, CEO Iris Automation
- SATCOM Integration - Lessons Learned: Mariah Murray, VP Operations AVSS
- Canada Post: Jamie Gomes, Manager, Program Management and Innovation

RESEARCH INITIATIVES

MODERATOR// KEN WHITEHEAD, SOUTHERN ALBERTA INSTITUTE

- R&D Activities to Support TC Regulatory Framework development: Charles Vidal, National Research Council and Carlos Ruella, Transport Canada
- UAS Training and Research: Dr. Jeremy Laliberte, Carleton University
- Aerial Robotics Research and Education at the University of Toronto: Dr. Hugh Liu, University of Toronto
- Unmanned Landmine Detection System: Alan Rezazadeh and Shahab Moeini, Southern Alberta Institute of Technology

INQUIRIES? PLEASE CONTACT US!

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