

Siu O'Young  
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Dr. Siu O'Young is the President of Seamatica Aerospace Limited in St. John's, Newfoundland. Seamatica develops detect-and-avoid (DAA) systems to enable beyond visual line-of-sight (BVLOS) missions for unmanned aircraft. Seamatica also provides specialized unmanned aircraft services for the natural resources and utilities sectors in Atlantic Canada. Siu is a contributing member of the RTCA SC-228 work group on defining DAA standards in the United States, and an associate editor of the Journal of Unmanned Vehicle Systems. He has served on the Board of Unmanned Systems Canada (USC), NATO HMF-170 on Multi-agent Supervisory Control for unmanned systems, and the UAV Working Group at Transport Canada. He received his undergraduate degree from University of Saskatchewan and graduated with a Ph.D. in electrical engineering from the University of Waterloo. He continued onto Oxford University, England designing control systems for nuclear power plants and military helicopters, prior to returning to Canada to join the University of Toronto. He is now a full professor at Memorial University in St. John's, Newfoundland, leading research on BVLOS infrared and acoustic DAA sensors, as well as synthetic aperture radars for small unmanned aircraft. He is also a Professional Engineer with 10+ years of industrial experience.

I am eager to contribute my time in fostering the best balance between progress and safety with regard to making BVLOS flights possible. My unique experience will help USC to work together with industry, academia and regulatory agencies to achieve this in a timely manner.

I am holding one of the longest standing SFOCs in Atlantic Canada and have logged over 500 hours of UAS operations as a ground-observer and safety pilot. I pioneered BVLOS flights over sparse airspace in 2007, participated in harsh-environment operations including the North Atlantic and the Canadian high Arctic, and have conducted 5+ years of DAA field experiments using two coordinated unmanned aircraft.

Through Seamatica Aerospace, I have demonstrated the world-first autonomous DAA flights in 2012 using our ADS-B based AWSAS (All-Weather Sense and Avoid System) transceiver. I am currently involved with building a new generation of miniaturized ADS-B and an affordable radar for the detection of non-cooperative traffic.

I work closely with Transport Canada, NRC, FAA and RTCA in developing standards for BVLOS operations, and have served in NATO as a subject matter expert in unmanned systems. As a full professor, I supervise six Ph.D. students who are developing BVLOS sensors for small UAS.

As a board director for Unmanned Systems Canada, I hope to make BVLOS flights a reality under the leadership of USC in three graduated steps:

1. Extended VLOS (EVLOS) flights. Under RTCA, we defined VLOS as being able to tell the location and orientation of the ownship and stay well-clear of other traffic. EVLOS can be achieved by equipping the ownship aircraft with anti-collision lights and bright markings. We also need to formalize the acuity of unaided vision in seeing other aircraft to stay well-clear of other traffic.
2. Special missions over sparse airspace: Other countries such as the US and France have permitted special BVLOS missions over sparse airspace provided that adequate procedural risk mitigation is in place. I hope to use my geographical advantage of low traffic density in Newfoundland to set a similar precedence in Canada.
3. Risk-based assessment of UAS safety: FAA has adopted NMAC (near mid-air collisions) per hour as the metric to assess the risk of BVLOS missions. I have served in the RTCA SC 228 in defining this metric for IFR flights in Class A, B and C airspace. I hope to use my industrial and academic experience to advocate this metric for permitting BVLOS flights in Class G airspace in Canada.

Name: Diana Cooper  
Head of UAS & Robotics, LaBarge Weinstein LLP  
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I lead the UAS & Robotics Practice Group at LaBarge Weinstein, a Canadian law firm specializing in the technology sector. My practice involves assisting clients in the UAS ecosystem including hardware manufacturers, software developers and service providers in navigating the regulatory framework and commercializing their products and services. I regularly present on legal issues surrounding UAS including at conferences held by NASA, Unmanned Systems Canada, IEEE and Stanford University. I publish a legal column focused on UAS in Robohub and I have been quoted as an expert in UAS law by media outlets including Forbes, The New York Times, The Guardian, The Globe and Mail and CBC.

As a director, I would leverage my advocacy skills and media presence to advance the interests of Unmanned Systems Canada in the national and international arenas. I hope to represent the interests

of members when regulators and policymakers consider regulatory amendments that have the potential to affect the unmanned systems sector. I would also keep the Board and membership apprised of regulatory developments in foreign jurisdictions. Over the 3-year term, I hope to collaborate with members, regulators, media and other stakeholders to pursue strategic initiatives aimed at maintaining Canada's leadership position in the global unmanned systems market.

I hope to support the continued vitality of Unmanned Systems Canada by using social media to strengthen outreach efforts. Additionally, I would endeavor to create opportunities for partnerships and collaboration among industry players including platform developers, end-users and investors.

Derek Scott  
Vice President Provincial Aerospace  
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**Derek Scott**

Vice President, Program Development  
Provincial Aerospace

Derek is the Vice President of Program Development for Provincial Aerospace and joined the Company in 1988, some 26 years ago after majoring in Computer Science at Memorial University of Newfoundland; a background which was used during his initial years to develop tactical data management systems for surveillance aircraft. During this tenure with the Company, he has held various progressive positions that were reflective of his broad base of advanced skill sets applicable to maritime surveillance operations and mission systems integration. Today he focuses on major programs that require his experience in business management and technology identification, adaptation and implementation for similar applications around the world for both manned and unmanned platforms.

He is very active on the domestic and international stages, and is currently the Company's pursuit lead for Canada's \$3.2 billion Fixed-Wing Search and Rescue Project where the company recently signed an agreement with Airbus Defence and Space.

He is a founding member and continues to serve on the board of the Aerospace and Defence Industry Association of Newfoundland and Labrador. He also serves on the board for OceansAdvance, and participates in the Small-to-Medium Enterprise Committee of the Canadian Association of Defence and Security Industries (CADSI).

Derek will bring to Unmanned Systems Canada a combination of highly technical, operations management and successful entrepreneurship attributes linked primarily to applications in maritime surveillance.

From a technical perspective, his broad base of software engineering, mission systems/sensor integration and operations will bring to the board a wealth of knowledge and experience which will contribute significantly to the board's already broad and noted credibility base.

From an operational perspective, Derek established and ran for many years, Provincial's airborne maritime surveillance operations which constitute more than 50% of all electronic

airborne surveillance of Canada's critical approaches and maritime environments. This experience will contribute significantly to injecting unmanned systems application leadership. Finally, from an entrepreneurial perspective, his experience in successful business leadership will assist Canada's unmanned systems industry to be engaged and competitive at domestic and international levels.

In addition to these traits, Derek is also an experienced board member with various skill sets linked to strategy development/execution, communications, business modeling and effective empowerment of resources and assets.

As a board director for Unmanned Systems Canada, I hope to contribute to the linkages that have been established between Unmanned Systems Canada and its stakeholders with the objective of enhancing collaboration to ensure there is a sustainable balance between research, regulation, procurement policy, business development and opportunity for its members for both domestic and export purposes.

Charles Vidal  
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Charles Vidal emerged as a leader in the unmanned systems field in 2004 when he founded the highly successful VAMUdeS at Université de Sherbrooke. During his studies, he led the group, developed UAVs and won competitions worldwide.

Today, Charles continues to play a significant leadership role in the unmanned systems sector. Professionally, he is Director, Solutions at ING Robotic Aviation where he leads a multi-disciplinary team creating the next generation of Canadian unmanned systems. As a volunteer, he has spent countless hours over the past 8 years as the chair of the Unmanned Systems Canada Student UAV Competition, maturing it into a highly-competitive, highly-valued annual event.

Charles brings a unique and valuable perspective to the USC board. He was highly regarded as the ScanEagle site lead and UAS Operator/Maintainer in Afghanistan. Charles also worked for Pratt & Whitney, Bell Helicopter, and CAE. Few have the breadth of knowledge and experience gained from high intensity military operations to the latest operations in the civil sector including detailed dealings with Transport Canada and DND.

Charles understands well the challenges and opportunities in the unmanned systems sector and has already proven himself to be a valuable and devoted asset to our community. As a past student leader, and now a passionate leader in a leading UVS firm, I know the importance of students for the future of the association. I want to provide a focal point for students in Canada in order to grow this critical sector.

Being on the board will allow a good focus to the student UVS competition, keeping it as a very successful annual event. I want to make sure the competition stays annual; maintaining the momentum and knowledge to sustain growth. Being a member of the board will facilitate a strong representation to the future of the Unmanned Systems community.

With my daily engagement in business development of UVS; I bring knowledge in both the commercial and military sectors. I am also very involved in developing commercial and civil applications and have conducted several critical operations across Canada. I will bring this experience as my contribution.

I have been working with Transport Canada on the regulation challenge for 9 years and have accomplished major milestones, obtaining several SFOCs and it is my intent to help others obtain safe access of UAVs to the airspace and work on the major breakthrough that BVLOS operations will permit.

I intend to keep growing the student UAV competition and ensure that the increasing number of participating universities are offered challenging scenarios, allowing them to develop systems that

meet the requirements of the industries that will soon be major adopters of the technology. I hope that from this competition will stimulate many groups of students and lead them to play a leadership role in this sector after they graduate.

I also intend to represent the UAV service providers to ensure the association represents this growing segment of the industry.

I hope to be able to contribute to the regulatory changes and help quickly allow safe integration of BVLOS UAS operations in the airspace, as this will be a major game changer and allow the use of the full potential of Unmanned Aerial Systems in Canada. This will help redefine Canada as a leader in this field.

Pierre Pepin  
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Born Sept 4th 1947  
in Montreal  
Studied at:

- Université de Montréal B.A.
- York University, Honours B.A. program, Business administration
- HEC Montréal BBA program

Flying activities:

- Commercial pilot license with a glider instructor license.
- Served on the board of Association de Vol à Voile Champlain for 14 years
- Served on the board of directors of the Soaring Association of Canada for 10 years (1990 to 1999), 6 years as president.

Personal

- Resident of St-Lambert
- Married with one daughter

Career

- Kodak Canada (1969 to 2002) - Technical Sales, Marketing and Sales Management (Retired)
- Icare Interim Intl. - 2002 to 2006 Sales & Digital Imaging consulting
- MicroPilot – 2006 to present
- USC board member since 2012
- USC executive member (secretary) since 2013.

Given my background, the industry is where my focus is.

Canada has very strong young companies that have leading edge products. The size of the Canadian market is such that they have to sell internationally in order to survive. One of the issues they face is export controls and selling against manufacturers operating in countries where there are no such controls.

The next frontier in UAVs will be certification, notably DO178C certification. This is a labor intensive and very capital intensive project. We need to lobby the governments to make funds available for this endeavor. Getting the certification done at a time where no one else is would give Canadian companies a very definite edge over their competition.

As a member of the board of directors for Unmanned Systems Canada, I hope to bring continuity and the vision of the industry to the board, as many members have elected to step down. This is particularly true of the executive committee.



Calvin Reich  
Capri Insurance Services Ltd

Calvin Reich has been involved in aviation since 1992. After always dreaming of being a pilot, he decided to get his private pilots license and then went on to complete his commercial license as well as his float, multi engine and IFR ratings. He has worked with companies such as Harbour Air Seaplanes, Alta flights Ltd. and Okanagan Skydive. He has also studied business at Okanagan University College and Simon Fraser University. Calvin has been with Capri Insurance for the past 14 years and has been involved in the aviation and UAV insurance for much of this time. Calvin has been a member of Unmanned System Canada and has been involved as a presenter in 2014 and again in 2015. He has also been very active in, and moderating a number of UAV discussion groups with respect to UAVs the SFOC process and the Exemption Rules.

Though Calvin does not hold a Masters Degree of Aeronautics or an Electrical engineering degree, he is very involved with the UAV operators around Canada and around the world. He has been able to assist many through the challenging process of the SFOC and the exemption rules. As a result of the solid aviation background and 14 years of experience in the insurance industry Calvin has been able to help many operators and underwriters understand the risks involved in this new industry. It is also the connection that he has with various operators, both large and small, that will make him a valuable board member of Unmanned Systems Canada.

When Calvin is not involved in UAV consulting and providing insurance options through Capri Insurance, he enjoys helping coach his kids, soccer, volleyball and football games and cheering on his wife in Ironman races. He also enjoys spending his weekends at Silver Star Mountain snowboarding and mountain biking. Recently, Calvin has been enjoying flying his Mooney aircraft.

Calvin's goal is to help promote the industry in a positive way through education and information.

Benoit Germain  
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Bachelor in Business Administration from “Hautes Etudes Commerciales de Montreal – H.E.C.”, 1994, Benoit Germain is an entrepreneur who has worked in several industries:

From 1994 to 2001 in a Chartered Accountant firm (Desforges, Germain, Gendron, McSween & ass.) as an expert in financial auditing, I decided to start my own firm with some coworkers and found Parent, Germain, Leclerc & ass. I sold the firm in 2001.

In 2001, I joined a group of entrepreneurs and founded Solcom Group, a “Marketing company” working across Canada (client: The Jim Pattison Group). I quit the firm in 2007.

From 2007 to 2011, I was asked to work as a consultant for restructuring some big Printing companies here in Québec. (Goliath Printing, Printing Nashville & Sisca printing). My role was to increase the efficiency of the workflow and to increase profits (Kaizan). In the meantime, I worked as a Producer and Manager for “Erik Mongrain”, a young acoustic guitar virtuoso. We’ve travelled around the world with concerts series.

I had my “private aircraft pilot license” since 2004 at Alm Par Avion flying school, based on Mascouche airfield, near Montreal (CSK3). I joined them in 2011 as the financial director and I was planning to buy the school in 2013 but... that’s when we were first started to work on Exo Drone. You know the rest.

I’m an R/C pilot since 5 years now.

As cofounder of Exo Drone who act both in the Pilot Training, Field Operations, as a consultant to large companies and more recently, as a franchisor, I am constantly subjected to all facets the drone’s world. I’m involved in a partnership with an Insurance Firm to develop a brand new Drone Insurance Policy. This strategic position gives me the opportunity to have an overview on the use of drones in Canada.

Now, as a board director for Unmanned Systems Canada, I hope to be able to help to incorporate this wonderful technology in the Canadian sky, to educate people about the risk and the advantages of flying those UAV, to democratize the UAV in the industrial world. For that to happen, I would like to bring my ideas to Transports Canada for them to come up with rules that will reinforce the security rules where it is needed only. Transports Canada’s regulations will set the future of the UAV. I wish Transports Canada’s rules will reflect the real life drone operators.

Robert Aubé

VP Engineering & Operations Kongsberg Gallium

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Throughout his whole life Robert Aubé has been an aviation enthusiast learning to fish on the float of a Cessna 185 at the age of 6 and doing his first water take-off and landing – sitting on a cushion – at the age of 8. He has been a licensed pilot since he was 18 years old. Mr. Aubé studied law and worked briefly as a paralegal and Registrar in the Ontario Office of the Attorney General, but left his legal career to fulfill his ambitions as a pilot.

Mr. Aubé joined the Canadian Forces as a pilot, and flew military aircraft for 7 years until leaving the Canadian Air Force in the mid-1990's. Mr. Aubé returned to school to pursue another passion: Information Technology and in the 20 years that followed, Mr. Aubé has applied his aviation and high-tech expertise in working as a Project and Product Manager, delivering mission-critical, real-time Command and Control systems.

In 2007, Mr. Aubé was appointed VP of Engineering and Operations at Kongsberg Gallium, where he oversees the organization's engineering, project delivery, and product management activities. Mr. Aubé is now leading the application and development of Kongsberg Gallium's military UAS expertise into the commercial UAS market.

I've worked in applying technology to solve problems in the aviation industry for more than 20 years; I have a solid background of building partnerships and a proven record in delivering successful projects satisfying the needs of all stakeholders. My career path has provided me with significant exposure to regulatory, operational and governance issues relating to commercial aviation while my responsibilities have provided me with substantial experience in managing financial, human resources, and legal issues.

I have also built up a substantial network of contacts in a variety of domains including UAV, AUV and HALE platforms at companies and organizations of all sizes throughout Canada, the United States and the rest of the world.

I believe that my professional experience, my professional network, and my leadership attributes will serve Unmanned Systems Canada well in fulfilling its Mission Statement and Goals.

When I served with the Canadian Forces I internalized their mantra of Getting the Job Done. I know that this focus and perspective will be just as effective when working on behalf of the Unmanned Systems board as it has been in my personal and professional life.

As a board director I will continue to work within the established Unmanned Systems Canada's Mission Statement.

I will continue to promote the use of unmanned vehicle systems to increase their adoption rate by leveraging innovation. The industry is ripe and ready to blossom by applying a mix of proven and emerging technologies to both the unmanned vehicles themselves and their ground control stations.

I will continue to provide the best possible stewardship on behalf of Unmanned Systems Canada.

Strategically, I hope that together we can reach the point where industry will operate in a permanent beyond line-of-sight environment so we can begin to realize the true potential of unmanned systems, create new opportunities and generate new revenue streams.

Alexander Harmsen  
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The last few years have seen Alexander Harmsen go from being the first programmer at Matternet, Silicon Valley's medical drone package delivery start-up, to working for Airbus in Germany, MDA in Vancouver, Defence Research & Development Canada in Quebec and NASA's Jet Propulsion Lab in Los Angeles. Fascinated by the intersections of aerial robotics, autonomous vehicles and real applications that will affect billions of people, Alexander is always looking for new ways to use these technologies to solve global issues. At school, he co-founded the UBC Unmanned Aircraft Systems engineering team and orchestrated change as the president of the UBC Chapter of Engineers Without Borders. From being involved in UBC's Satellite Design team to earning his private pilot license, Alexander Harmsen is someone who does not like to let chances pass him by. Broadening his horizons through education, Alexander spent 5 months studying in New Delhi, India, and found a new appreciation for tackling technological issues on a grand stage. Currently, Alexander is starting up his own robotics company, with a plan to make big changes in the world. He is always excited about meeting new people with fresh ideas!

As a young entrepreneur, Alexander's commitment to unmanned aviation was recognized by Unmanned Systems Canada when he was awarded the Mark Cuss Scholarship a few years ago. From presenting a technical paper at a national conference, having formed a team to compete in the USC competition and starting up his own robotics company, Alexander has a wealth of directly relatable experience and knowledge to draw from to further USC's ambitious agenda. He has worked on military R&D, large flight management projects for the FAA and has an insider's view on how a number of Canadian UAV start-up companies work. In order to move forward, the USC board needs knowledge from a variety of backgrounds like this to make the best decisions possible for the organization and the future of the industry in Canada. Alexander will bring a new sense of excitement and enthusiasm to the board as this growing industry moves towards increased automation, unmanned flying beyond visual range and explosive growth in the use of recreational, commercial and military unmanned systems in the air, on the ground and in the water.

There are many ways in which Unmanned Systems Canada can push this great country to be a leader in the field of robotics and Alexander wants to be part of that process. Having been at the USC competition as a team captain first-hand, he has much feedback and many ideas to make the USC competition more effective and challenging, advancing the industry with some of the brightest young minds in Canada. Alexander would bring his outreach experience from extensive work with Engineers Without Borders to USC, expanding the organization's communication avenues to the public and to universities across the country.

Alexander believes that a vast majority of the unmanned systems use cases are currently unexplored because the industry is constrained by mandatory emergency operator and line-of-sight operational restrictions. There are many autonomous navigation solutions emerging that are painting the way for safer flight and these need to be integrated into USC's plans. Alexander would like to be part of that effort and help steer the industry towards a more autonomous future. He hopes to bring a renewed sense of spirit to the organization to help invigorate a continued push for change in one of the fastest growing industries worldwide!

Dennis Whalley  
UAV Segment Manager  
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Education:

2 Year Geomatics Technology Diploma – Centre of Geographic Sciences 2000-2001  
Bachelor's Degree Geodesy & Geomatics Engineering – University of New Brunswick 2002-2006

Currently in my 8<sup>th</sup> year employment by Cansel Survey Equipment (CSE) who is the largest supplier of positioning equipment in the world. I have recently changed roles to National UAV segment manager for Cansel

My experience gained has been attributed by being a UAV reseller and Professional Service Provider through constantly updating and educating clients on SFOC regulations, operating restriction, UAV capabilities, UAV advantage, UAV risks and UAV limitation. Along with my UAV experience, my previous position at Cansel was managing 11 people in the Atlantic Canada region with sale budgets and territory coverage plans. I understand that a team needs to be managed and held accountable as well as given key performance indicator to ensure success.

I hope to bring a different perspective as a UAV re-seller and service provider (a non-manufacturer) my, survey engineering background and survey centric profession will bring knowledge of the largest UAV markets (mining, geology, survey, wet land management, agriculture). With direct exposures to some of the largest engineering, construction, food growers and mining operations in Canada and even the World.

Paul J.H. Bennett  
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For 21 years Paul has been working in emerging technology integration for large enterprises in the mining, oil and gas, agriculture, and telecommunications sectors since 1995 with a focus on solving business problems with next generation solutions. With his experience and education in this area, he is armed with a strong toolset in planning, development, project management and technology lifecycle.

Paul has also been involved in the custom design, construction, and operations of remotely piloted aircraft for more than 20 years and founded Aerobotika Aerial Intelligence to collaborate on UAV research and development, education, and community development. Aerobotika has grown to become one of the top UAS educators in Canada and is expanding internationally.

Through Aerobotika, Paul's mission is to enable the industry to grow through education and the implementation of new integrated technologies to make unmanned aviation a reality in daily operations for organizations around the globe.

Driven by his passion, Paul has been very involved in the media and speaking at events across Canada to promote UAS technology, education, and safety, and to educate the public on the Canadian and international regulatory environments.

By being involved in the Unmanned Systems Canada Board, I will bring representation from the hundreds of students and customers that Aerobotika serves, new commercial unmanned businesses, and for British Columbia. From my years as a strategic consultant I also bring a perspective from the boardrooms of big business in BC and across Canada where I am well practiced at influencing decision makers and sharing vision.

I have considerable experience participating on non-profit boards, councils, and committees in my community and the technology industry. I have been a team member and leader of many working groups and I'm comfortable engaging with membership, lobbying government or working on marketing and communications collateral.

Over the 3-year term I intend to make a positive contribution by actively participating with task groups working with safety or regulations issues with Transport Canada. I would be happy to lobby for further acceptance of unmanned systems in all applications.

With considerable experience in public speaking and with the press, I would be happy to represent and speak on behalf of Unmanned Systems Canada or to speak at USC or affiliate events.

I hope to assist USC in growing the membership and conference attendance. There are hundreds of organizations across Canada that should be part of USC and are not. USC value needs to be better explained and promoted to these organizations. I believe that there Unmanned Systems Canada

needs some modernization or communication improvements, such as a stronger social media presence and marketing campaigns.

I hope to assist the membership by spreading leadership throughout the country to promote compliance, responsible operation, and accountability with my customers, peers, and the public.

Our industry is experiencing rapid growth and requires continuing communication and leadership to build confidence with regulators and the public. My involvement with the USC board will provide more frontline support for responsible practices and compliant business practices with the hundreds of operators that I meet with every year.

I am excited to work with the board to promote unmanned systems innovation in institutions, government, and private sector within Canada. I believe that Canada is already a world leader in unmanned systems development and think that USC is in a position to provide a collaborative leadership to give the industry what it needs to continue to speed forward.