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# Darren Keuhl

Drone Operator & Collision Reconstructionist

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## OFFICE

Kingston

## EMAIL

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## CONTACT

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Darren is a Remotely Piloted Aerial Systems Operator specializing in pre-loss and post-loss site inspections, field investigations and aerial scene mapping using Pix4D and Drone Deploy software. He was a Level 3 Traffic Collision Investigator and a Level 4 Collision Reconstructionist with over 30 years of policing experience.

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## CERTIFICATIONS

- Certified under Transport Canada Canadian Aviation Regulations (CARS) to fly advanced RPAS's for commercial areas, including urban built up locations across Canada in class C, D, E, F, G airspace
- Level 3 Collision Investigator
- Level 4 Reconstructionist
- Pix 4D Aerial Mapper Licensed – Collision Reconstruction
- Drone Deploy Aerial Software
- Level 1 sUAS Thermography Certification (Drone Infrared Inspections)

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## TECHNICAL AFFILIATIONS

- Ontario Association Chiefs of Police Advisory Group – Drones in Policing (2016 – Present)
- National Association of Professional Accident Reconstruction Specialist (2019 – Present)
- Team Member – National Tactical Officers Association (2001 – 2015)
- Team Member – Ontario Tactical Advisory Body (2002 – 2015)
- National Tactical Officers Association (1994 – 2015)
- Member – Ontario Tactical Association Body (1994 – 2015)
- Member – Kingston Flying Club (1996 – 2009)
- Past Board Member – Ontario Tactical Advisory Body (2003 – 2005)

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## PROFESSIONAL EXPERIENCE

### Remotely Piloted Aerial Systems Operator

OCI Group (Formerly Origin and Cause Incorporated)

February 2019 – Present

- Commercial expertise with operational Remotely Piloted Aerial Systems for site inspections, pre-loss and post-loss
- Operate advanced RPAS to support field investigations in the areas of:
  - Roof Inspections (drone deploy roof reports)
  - Building /structural inspections (interior and exterior)
  - Fire scene investigations (residential, commercial, or large scale)
  - Natural disaster requiring area mapping for floods, wind damage, forest fire, ice storm (2D/3D)
  - Explosion scene investigation
  - Site mapping for two dimensional and 3-dimensional modelling
- RPAS fleet will include a thermal sensor RPAS and an all-weather, heavy inspection RPAS for industrial and large-scale site Inspections
- Capture high definition video and digital imaging at 4K resolution for pre-loss and post-loss reports by adjusters on site
- Insured for \$2 million liability for commercial deployment of the RPAS
- Extensive background in emergency services including site evaluations for safety, traffic safety, and motor vehicle collision investigation
- Certified for Drone Thermography Inspections Level 1 Thermography (structural,

- electrical, mechanical, solar, water drainage)
- Motor vehicle collision analysis/review reports

### **Sworn Officer**

Kingston Police

Kingston, Ontario

December 1988 – January 2021 (Retired)

- Level 1 Basic Collision Investigation, Ontario Police College (1989)
- Level 2 Advanced Collision Investigations, Ontario Police College (2002)
- Level 3 Traffic Collision Investigator, Ontario Police College (2015)
- Level 4 Collision Reconstruction, Toronto Police College (2016)
- Sokia Robotic Total Station Training, York Regional Police (2016)
- Computer Aided Drawing – PIX 4D Software Training, Aeryon Labs (2018)
- Advanced Remotely Piloted Certification (April 2018)
- Certification by Transport Canada on New RPAS (Remotely Piloted Air Systems) Pilot and Flight Reviewer

### **Traffic Sergeant**

Kingston Police

Kingston, Ontario

2015 – 2021

- Advanced Remotely Piloted Aerial Systems (RPAS) Operator specializing in pre-loss and post-loss site inspections, field investigations and aerial scene mapping using Pix4D and Drone Deploy software
- Traffic Sergeant overseeing 6 collision reconstruction officers
- Traffic unit was responsible for all Kingston police traffic safety initiatives, Strategic Traffic Enforcement Plan (S.T.E.P) and responding in an on-call rotation to all serious bodily harm and fatal motor vehicle collisions
- Served as traffic advisor for the Office of the Chief of Police within the Kingston police, maintaining statistics for all collisions recorded through the collision reporting center (CRC)
- Manager for all Executive Summary and Collision Reconstruction Reports required for Provincial Court and Criminal Court Crown briefs, as well all serious and fatal motor vehicle collisions statistics and files
- Supervised the Commercial Motor Vehicle Inspector within the Traffic Unit
- Manager of Kingston Police Traffic Unit – Motorcycle Unit

- Assisted in coordination with Commercial Motor Vehicle Inspector Commercial Safety Blitzes
  - Operator and manager for the Kingston Police Advanced Drone Program, overseeing project equipment and training of 6 pilots for aerial mapping of collision scenes, providing aerial support for tactical unit, canine, identification unit, and criminal investigations unit
  - Developed integrated drone operations within collision reconstruction by merging aerial scene mapping with robotic total station mapping and computer aided design (Sokia Robotic Total Station, Magnet Data Collection CAD drawing)
  - Senior Traffic Unit liaison to the Office of the Chief of Police to the City of Kingston on the Red Light Camera project as well as police lead partner with the Vision Zero Traffic Safety program
  - Reviewed all city-issued permit requests for parades with regards to traffic safety
  - Administered Ontario Provincial Grant for Kingston Police for R.I.D.E program, maintaining statistics and frontline operations
  - Deployed November 2019 to Bahamas to Conduct Aerial Drone Mapping of damage to Greater Abaco Island and area for Bahamian Civil Aviation Authority with Toronto-based organization, Global Medic
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## **FURTHER TRAINING & EDUCATION**

Probationary Constable Course Part A, Ontario Police College, Aylmer, Ontario (January 10–March 10, 1988)

Probationary Constable Course Part B, Ontario Police College, Aylmer, Ontario (October 1–21, 1991)

Bicycle Operator – Police Safety Course, Kingston Police, Kingston Ontario (June 4–6 1995)

Emergency Response Team Operator, Kingston Police Tactical Unit (February 1994–December 1997)

General Service Dog Basic Training Course, Ontario Provincial Police Academy, Canine Training Facility, Orillia, Ontario (September 1997–January 1998)

Narcotic Detector Dog Training Course, Ontario Provincial Police Academy, Canine Training Facility, Orillia Ontario (February–March 1999)

Basic Tactical Operator Course- BTOC, Ontario Tactical Advisory Bo, Ontario Provincial Police, Kingston, Ontario (April 5–May 31, 2002)

General Investigative Techniques, Ontario Police College, Minister of Public Safety & Security, Kingston Ontario (January 31–February 14, 2003)

Basic Instructor Course- Less Lethal Options, Oc, Specialty Impact Munitions, Distraction Device, Chemical Munitions, Defense Technology Federal Laboratories, Guelph, Ontario- Guelph Police (September 10–15, 2003)

Team Leader Course- Police Tactical Unit, Atlantic Police Academy, Waterloo Regional Police, Kitchener, Waterloo, Ontario (December 6 –11, 2004)

Advanced Taser M26 Certification, Kingston Police, Kingston, Ontario (May 19, 2004)

Front Line Supervisor Course (FLS – 0404), Ontario Police College, Ministry of Community Safety & Correctional Services (September 27–October 8, 2004)

Crisis/Hostage Negotiator Course, Canadian Police College, Ottawa, Ontario (January 2–14, 2005)

Taser X26 Certification, Taser International, Kingston, Ontario (February 17, 2005–Current)

Domestic Violence Investigation Course, Kingston Police, Kingston, Ontario (April 2005)

Facilitating Adult Learning Course (FAL-0501), Ontario Police College, Aylmer, Ontario (April 25–29, 2005)

Leadership Development Course, The Banff Academy of Business, Kingston, Ontario (May 24, 2005)

On-Scene Collision Investigation Level II Course, Kingston Police, Kingston, Ontario (October 31–November 4, 2005)

Health and Safety for Supervisors- Police Sector, Municipal Health & Safety Association, Kingston, Ontario (December 6, 2005)

Dynamic Entry/ Hostage Rescue Course, Ottawa Police, Kingston, Ontario (February 13–17, 2006)

Critical Incident Stress Awareness Course, Kingston Police, Kingston, Ontario (February 28, 2006)

Ontario Association of Law Enforcement Planners- OALEP, Pandemic Symposium, Huntsville, Ontario (April 19–21, 2006)

Fundamentals of Auditing a Police Organization, Ontario Police College, Oshawa, Ontario (May 8–12, 2006)

Operational Planning Course, Kingston Police, Kingston, Ontario (April 23–27, 2007)

Hostage/Crisis Negotiator Refresher Course, Canadian Critical Incident Inc., Kingston, Ontario (November 21–23, 2007)

Arwen Armorer/Instructor, Police Ordinance Co., Kingston Ontario (May 13–16, 2008)

Hostage Rescue Tactical Officer, Ottawa Police Tactical Unit, Sgt. Jeff Kilcollins, Kingston, Ontario (May 19–30, 2008)

Tactical Medical Care Level 1, Active Canadian Emergency Training, Kingston, Ontario (September 4, 2008–September 4, 2010)

Use of Force Instructor, Ontario Police College, Aylmer, Ontario (December 1–December 19, 2008)

Carbine Instructor C8 Rifle, Colt Canada, Kitchener, Waterloo (July 28–30, 2009)

Combat Pistol Instructor, Peel Regional Police, Mississauga, Ontario (November 24–25, 2009)

Tactical Team Leaders Course-Instructor/ Mentor, Ontario Tactical Advisory Body (OTAB), St. Lawrence College Kingston Ontario (May 17–May 21, 2010)

Police Bicycle Operations, Ottawa Police, Kingston, Ontario (June 14–15, 2011)

Psychological Health in The Workplace, Kingston Police – St. Lawrence College (March 2013)

Taser Instructor Certification, Kingston Police – Taser International (June 22–23, 2014)

Police Motorcycle Operators Course, Level 1- Ontario Police College (June 15– 26, 2015)

Collision Investigator, Level III Ontario Police College (October 12–31, 2015)

Police Motorcycle Operators Course, Advanced-Ontario Police College (August 20–25, 2016)

Collision Reconstruction, Level 4 Course, Toronto Police College (November 14–25, 2016)

Unmanned Aerial Vehicle Operator Course, Aeryon Labs, Kitchener Waterloo (April 10–14, 2016)

Certified by Transport Canada for Advanced Drone operator (February 2018)

Certified by Transport Canada for Flight Reviewer (May 2018)

ITC FLIR Level 1 sUAS Thermography Certification (April 2021)

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## **CONFERENCES & WORKSHOPS**

G-8 Summit Security- Ottawa Ontario, Ottawa Police, Canine Handler, Ottawa Ontario (June 8–10, 2004)

LAPD North Hollywood Shootout- Symposium, Ottawa Police, Ottawa, Ontario (August 26, 2004)

Ontario Tactical Advisory Body – Round Up, CFB – Borden (September 15–16, 2004)

Ontario Tactical Advisory Body – Seminar, Peel Regional Police, Brampton, Ontario (November 28, 2006)

Death Notification Training, M.A.D.D, Kingston, Ontario (December 4, 2007)

Influential Police Leadership, Ontario Police College, Kingston, Ontario (October 8, 2008)

Public Order Unit Seminar- Toronto P.S, Toronto Police- POU, Kingston, Ontario (April 30, 2009)

Deployment to 2010 Vancouver Winter Olympics, RCMP- Joint Police Security Task Force Officer, Whistler, British Columbia (February 9–27, 2010)

Ontario Association of Chiefs of Police Conference, Kingston, Ontario (June 12–16, 2010)

Conference-Conflict Resolution/Active Protesters, Ottawa University, Ottawa Ontario (October 24–25, 2011)

Ontario Tactical Advisory Body OTAB Conference, Collingwood, Ontario (May 14–18, 2013)

Ontario Tactical Advisory Body OTAB Conference, Collingwood, Ontario (May 15–18, 2014)

COYO Conference – Youth Education, Niagara Falls , Ontario (February 26–28, 2015)

Aeryon Labs – Unmanned Aerial Vehicles in Policing, Provincial Advisory Working Group (June 15–16, 2016)

Vision Zero Seminar – Vulnerable Road Users, Toronto, Ontario (October 25, 2017)

City of Kingston Road Safety Plan, Advisory Group (October 4, 2017 – Present)

Vision Zero Annual Conference, Delta, Toronto Ontario (February 28 – March 2, 2018)

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## SEMINARS

Presenter: Remotely Piloted Aerial Systems Deployment with Pre- and Post-Loss Inspections for Adjusters (May 2018)

Presenter: Trends in Loss of Water Seminar, Ottawa Airport Hilton (February 2019)

Presenter: Ontario Traffic Counsel Conference – Use of Technology in Policing Remotely Piloted Aerial Systems and Automatic License Plate Reader Cars, London Ontario (May 5–7, 2019)

Instructor: Ontario Police College, Advanced Public Safety Operations for Remotely Piloted Aerial Vehicles (April 28 – May 3, 2019)

Presenter: Origin and Cause, The Sky is the Limit/Using Drones in Claims Investigations – Webinar (May 29, 2019)

Instructor: Grimsby Fire Training Center, Advanced Public Safety Operations for Remotely Piloted Aerial Vehicles (September 8–12, 2019)

Presenter: Origin and Cause, Drones in Structural Claims Investigations – Webinar (June 2020)

Instructor: Grimsby Fire Training Center, Advanced Emergency Services Operations for Remotely Piloted Aerial Vehicles – Webinar (October 2020)

Presenter: Origin and Cause, Under the Weather: Getting to the Root Cause of Wind and Snow – Webinar (February 2021)

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## OTHER CERTIFICATIONS

- Private Pilot's License-Light Aircraft, Kingston Ontario (June 1996)
- CPR/ First Aid (1988 – Present)
- Chemical Munitions Instructor (2003)
- Tactical Medic Operator (2003)
- Arwen Less Lethal Instructor (2007)
- Carbine Instructor: Colt C8 Rifle System (2009 – 2015)
- Advanced Pistol Instructor: Peel Police (2009)
- Advanced Combat Pistol Instructor (2009)
- Use of Force Instructor, OPC Certified (2009)
- Police Bicycle Operators Certification Can Bike, Ottawa Police (2011)
- Conducted Energy Weapon Instructor: Kingston Police (February 2013)
- Tactical Unit Weapons Instructor: HK416/ Sig Sauer 226, Remington 12 Gauge, Arwen Anti-Riot Weapon, Colt C8 Assault Rifle, Kingston Police (December 2011 – January 2015)
- Police Motorcycle Operator, Ontario Police College (June 2015 – Present)
- Aeryon Labs 3-day UAS Operator Course (Sky Ranger)
- Kingston Police Special Operations Certificate Complex Restricted Transport Canada
- Standing Complex Special Flight Operations Certificate Transport Canada Private Operator Skeye Stream Inc., (Current to Transport Canada Regulations), Kingston, Ontario
- Advanced Drone Pilot Certificate Transport Canada (June 2019)
- Pilot Reviewer Certification Transport Canada (June 2019)
- Level 1 Thermography

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## COMMITTEE MEMBERSHIP

- Kingston Police, Incident Command Committee Member (2006–2015)
- Design Team Coordinator KPD ERU Tactical Command Vehicle (2007)
- Kingston Police Queens Homecoming Committee (January – September 2006)
- Queens Homecoming Planning (2007 – 2012)
- Kingston Police Building Transition Committee (July – October 2007)
- Kingston Police Emergency Management Committee (November 2009 – 2015)
- Carbine Program Business Plan and Development to Inception (2009)
- KPD O.A.C.P Conference Planning Committee
- Ontario Association of Police Educators (January 2009 – January 2011)
- Special Olympics Ontario, Spring Games Security Coordinator (January – June 2012)
- Kingston Police Emergency Manager, Committee (2012 – 2013)
- Design Team Coordinator, Kingston Police/Command Post-Vehicle (March 2012 – 2014)
- Command Post Vehicle Project Manager – Design Team Lead (2013)
- Tactical Rescue Armored Vehicle, Business Plan Project Manager – Design Team Lead (2013)
- Unmanned Aerial Vehicles in Policing: Provincial Working Group (February 2016 – Present)
- Kingston Police Gala Planning Committee (2015 – 2016)
- Great Lake Motorcycle Training Seminar Planning Committee (January 2015 – August 2016)
- Kingston Police 175th Anniversary Committee (January 2016 – December 2016)
- Project Manager Unmanned Aerial System research (January 2016 – May 2016)
- Business Case: Unmanned Aerial Vehicles in Policing Presented to Kingston Police Senior Command (May 2016)
- Acquisition of Kingston Police Unmanned Aerial Vehicle, Aeryon Sky Ranger (February 2018)
- Unmanned Aerial System Manager, Kingston Police (February 2018 – Present)