

Clean Waters, Healthy Lands and Technology

Venture 13, 739 D'Arcy St, Cobourg ON K9A 0H6

Nov. 14 8:45 am to 10:30 am and 11:30 to 12:30 (Lunch and Learn RSVP)

Zoom Link for remote participants available Monday Nov 14 by emailing Jonathan Brown at jonabrow@gmail.com.

Time	Event Sessions	Location
8:45-8:55	Welcome and Agenda	Lecture Hall
9:00	A. Tree data collection B. 360-degree video inspections and virtual reality C. Drone 3D mapping, modelling and emergency response	Outdoors/remote (students/community)
9:20	moving to next event	Transition
9:30	Lightning Talk/3d Visualizations Demo - on site- indoors - whole group	Indoors and remote
10:00	A. Invasive species mapping with citizen science app B. 360-degree video inspections and virtual reality C. Drone 3D mapping, modelling and emergency response	Outdoors/remote (students/community)
10:30	Cobourg Collegiate Institute students depart with package/swag	
10:35	Informal Brainstorming - Sector Partnered Activity	SHSM School board consultants
11:30	Lunch and Learn (Intro/lunch 20 min; IBW Surveyor demo 20 min; discussion/future opportunities 20 min)	Indoors and remote
12:30	St Mary Catholic SS Grade 12 3D visualization AI demo	Indoors classroom
12:50	Grade 9 geog. class on SMCSS - Tree Planting	Outdoors students
2:00	Closing Remarks - Entrepreneurship opportunities	
2:30	Finish Tree Planting - Community Service Hours/Community Volunteers	Outdoors community

Title: Environmentally Sustainable Development in 3D

Description: Sustainable Cobourg GIS Coordinator will talk about 3D technologies in the context of the natural and built environment. The focus will be on emerging 3D technologies and environmental stewardship aligned to municipal asset management and community partnerships. Examples will be given from hackathon challenges and community-based projects that support clean water and healthy lands.

Title: Seeing the Natural and Built in 3D

Description: IBW Surveyor experts will demonstrate the advantage of using the GeoSLAM mobile laser scanner to create 3D maps that reduce planning time and costs. This device maps roads, pipes, buildings and trees to create a 3D image of the natural and built environment. IBW Surveyors will talk about [As-built for Infrastructure and Civil Engineering Design | As-built Capture and Modeling | FARO](#) and applications for 3D mapping of wastewater plant clarifiers, bridges, pavement markings, manhole and stormwater infrastructure, and using AI to extract street furniture from point cloud data collected by the GeoSLAM laser scanner (e.g., light poles, signs, trees, bike stands, etc.)

Title: Snooping in Sewers with 3D Cameras and Drones

Description: Ian will provide an overview of the Field Innovation Teams work in operating and maintaining the City of Toronto's waste and stormwater system. The demo will include tinkering in the shop to come up with innovative solutions to asset management of individual manholes using 360 cameras, augmented reality and work forms for operating and tracking field work in the City's ArcGIS Online Distribution and Collection Asset Database.

Title: Drones, 3D Mapping and Emergency Response.

Description: Brian Major and Ryan Barrett will demonstrate the advanced drone pilot flight test requirements and talk about emergency response and capturing images for creating 3D models of the natural and built structures in the environment.

Professional Presenters:

[Ashraf Elshorbagy](#), Imaging team lead at IBW Surveyors, to discuss how 3D technologies can reduce natural and built asset management workflows and costs.

[David Januszkiewicz](#) is an experienced surveyor and foreman with a demonstrated history of working in the engineering, construction, land surveying, and oil and gas industries. He is a strong operation professional with a Bachelor of Science (B.Sc.) specializing in geodesy and geomatics engineering from the University of New Brunswick.

Note: **Geodesy and Geomatics** are used to analyze data about the Earth's surface to solve complex problems (e.g., fight climate change, creating tsunami warning systems, urban planning, constructing pipelines, operating navigation systems, understanding public health, recreating crime scenes, etc.). Skills include Land Surveying, Remote Sensing, Geographic Information Systems (GIS), Global Navigation Satellite Systems (GPS), Photogrammetry, Hydrographic Surveying and Data Science.

[Ian Braithwaite | LinkedIn](#) is an engineering technologist/technician specialist with the City of Toronto Water Department's Field Innovations Team. He has an advanced diploma in applied sciences and environmental technology from Centennial College. Ian is going to join us remotely from the field to

show us how they use 360 degree video footage to inspect assets before and after work orders and how they are using virtual and augmented reality technologies to improve asset management.

[Ryan Barrett](#) is an experienced young entrepreneur with expertise in consumer electronics, photography, marketing and business and drone 3D modelling. Strong leadership and public speaking skills honed from many years of involvement directing youth entrepreneurship programs. Fast learner willing to take on new challenges and to adapt in the constantly changing business world.

[Brian Majoor](#) is an Industrial Aeronautical Technologist with over 32 years experience as a shift response manager and trainer with Ontario Power Generation. Brian is also qualified to conduct drone flight testing for the Transport Canada advanced drone certification program.