Queen's University

3rd Virtual Geoscience Conference
Technical Programme

22-24 August 2018

Queen's University
Kingston, Canada

http://virtualoutcrop.com/vgc2018

Sponsors

BGC Engineering
https://www.bgcengineering.ca

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https://www.grsg.org.uk

IDS GeoRadar
https://idsgeoradar.com

Partners

GIM International
https://www.gim-international.com

Remote Sensing
http://www.mdpi.com/journal/remotesensing

Practical Information

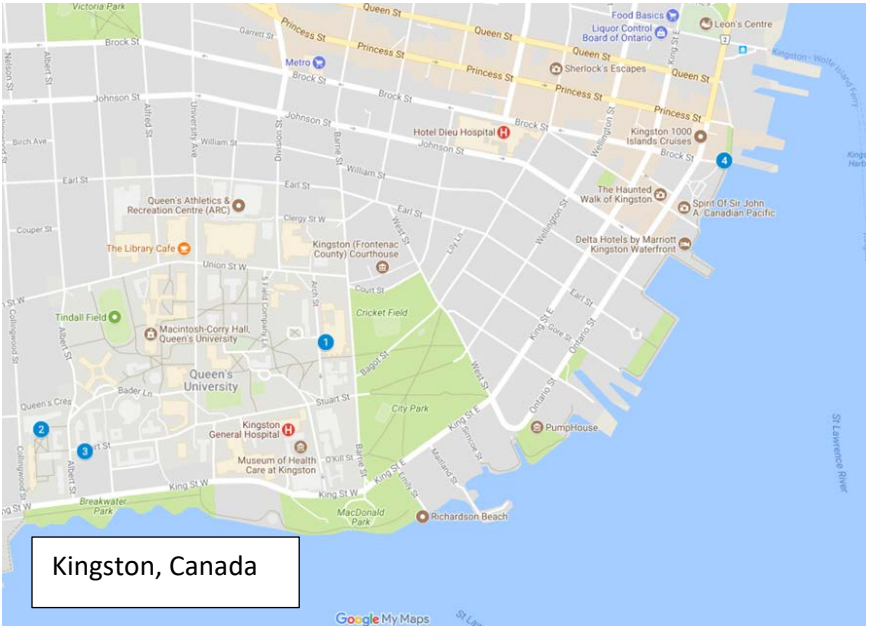
Conference Locations

1. Conference Venue
   Biosciences Complex: 116 Barrie Street, Kingston

2. Leonard Hall – Lunch
   150 Queen's Crescent, Kingston

3. Smith House – On Campus Conference Accommodations
   222 Stuart Street, Kingston

4. Boat Cruise Departure
   Wharf at 1 Brock Street, Kingston



Committees

Conference Chair

Dr. Ryan Kromer, Colorado School of Mines, USA

Local Organizing Committee

Dr. D. Jean Hutchinson, Queen's University, Canada
Rob Harrap, Queen's University, Canada
Dr. Matt Lato, BGC Engineering, Canada
Dr. Boyan Brodaric, Geological Survey of Canada, Canada
Lorna Dumond, Queen's University, Canada

Student Volunteers

Ioannis Vazaios, Queen's University, Canada
Sterling Mitchell, Queen's University, Canada
Alex Graham, Queen's University, Canada
Angus Macphail, Queen's University, Canada
Melanie Coombs, Queen's University, Canada
Danielle Beaulne, Queen's University, Canada

Scientific Committee

Dr. Jim Chandler, University of Loughborough, UK
Dr. Simon Buckley, Uni Research, Norway
Dr. Marc-Henri Derron, University of Lausanne, Switzerland
Dr. Thomas Dewez, BRGM, France
Dr. Nick Rosser, Durham, UK
Dr. John Howell, University of Aberdeen, UK
Dr. Einat Lev, Columbia, USA
Dr. Nicole Naumann, Uni Research, Norway
Dr. Georgia Fotopoulos, Queen's University, Canada
Dr. Tobias Kurz, Uni Research, Norway
Dr. Antonio Abellan, University of Leeds, UK
Holgar Kessler, British Geological Survey, UK
Dr. Sophie Viseur, Aix-Marseilles University, France

Technical Programme

Wednesday 22nd August

6:00	8:00	Registration and Conference Icebreaker (Biosciences Atrium)

Thursday 23rd August

Time		Presenting Author	Title	Affiliation
7:30	8:15	Registration and Morning Coffee		
8:15	8:30	Ryan Kromer D. Jean Hutchinson	Conference Opening Remarks	Queen's University, Canada
Session Chair: Sophie Viseur				
8:30	9:00	Helen J Reeves	KEYNOTE: Geoscientists' opportunities to apply virtual immersive tools in the management of ground related	British Geological Survey, UK
9:00	9:15	Nick Rosser	Live web-based presentation of 3D coastal rockfall	Durham University, UK
9:15	9:30	Simon Buckley	Enhanced excursions: How virtual field trips complement existing geoscience field activities	Uni Research CIPR, Norway
9:30	9:45	Nicole Naumann	New ways of sharing outcrop data: the SAFARI database and 3D web viewer	Uni Research CIPR, Norway
9:45	10:00	Michel Jaboyedoff	Optimizing the use of 3D point clouds data for a better analysis and communication of 3D results	University of Lausanne, Switzerland
10:00	10:30	Coffee		
Session Chair: D. Jean Hutchinson				
10:30	10:45	Michael Hillier	Framework for modelling national scale 3D geological models	Geological Survey of Canada
10:45	11:00	Holger Kessler	The National Geoscience knowledge base at the British Geological Survey	British Geological Survey
11:00	11:15	Zac Sala	Game engine based modelling for rockfall back-analysis and simulation over time using a rockfall event database	Queen's University, Canada
11:15	11:30	Dave Gauthier	Karrat Fjord (Greenland) tsunamigenic landslide of 17 June 2017: Preliminary 3D Observations from SfM	BGC Engineering Inc., Canada
11:30	12:00	Nick Hedley	KEYNOTE: Mixed reality geoscience: Linking worlds and remixing reality	Simon Fraser University, Canada
12:00	1:30	Lunch		
Session Chair: Matt Lato				
1:30	1:45	Erik Vest Sørensen	3D mapping of lavas: insights into the volcanic and structural evolution of the Kap Dalton Graben, Blosseville Kyst, East Greenland	Geological Survey of Denmark and Greenland (GEUS)
1:45	2:00	Brett Carr	Investigating the emplacement and collapse of higher viscosity lava with structure-from-motion photogrammetry	Lamont-Doherty Earth Observatory, USA
2:00	2:15	Moritz Kirsch	Integration of terrestrial and aerial SfM photogrammetry and VNIR, SWIR and LWIR outcrop sensing for geological mapping	Helmholtz Institute Freiberg for Resource Technology, Germany
2:15	2:30	Doug Angus	Coupled thermo-hydro-mechanical and microseismic	ESG Solutions, Canada
2:30	2:45	Benoit Rivard	Alteration footprint of mineral deposits from spectral investigations of drill core and outcrops: Examples from	University of Alberta, Canada
2:45	3:00	Xiaodong Zhou	Real time core logging using corescan high resolution hyperspectral core imaging data, Alturas, Chile	Spectral Geology and Remote Sensing Consulting
3:00	3:05	Ryan Kromer	Introduction to poster and interactive sessions	

3:05	3:20	Coffee		
3:20	4:20	Posters		
		Thomas Dewez	Mapping naturally occurring asbestos using combined spectral–geometric approaches	BRGM – French Geological Survey, France
		Raymond F. Kokaly	Mineral characterization using lab-, field-, and aircraft-based imaging spectrometers at Orange Hill porphyry Cu deposit in	U.S. Geological Survey, USA
		Brendan Hodge	Mapping the earth from pole to pole: Remote sensing of	UNAVCO Inc., USA
		Stephen Dankwa	3D visualization of sea surface temperature data :A technological tool	University of Electronic Science and Technology of China, China
		Jeffrey Moersch	Monitoring of dune migration rates and morphologic evolution with an unmanned aerial vehicle	University of Tennessee, USA
		Mohamed Atia	Enhancing UAV 3D orientation estimation using design of experiment and genetically optimized Kalman filter	Carleton University, Canada
		Charlotte Priddy	Virtual outcrop techniques as a means of generating quantifiable data in highly variable ephemeral fluvial systems: An example from the Kayenta formation, USA, for use in reservoir characterisation and modelling	Keele University, UK
		Bianca Wagner	Close-range sensing workflows in Structural Geology based on open-source/open-access solutions	University of Goettingen, Germany
		Josh Lambert	3D characterization of cave networks using photogrammetry, example from Longhorn Cavern, Central Texas	University of Texas at Austin, USA
		Anette Eltner	Developing a low-cost camera gauge and an unmanned	TU Dresden, Germany
		Angus MacPhail	Mobile terrestrial photogrammetry	Queen's University, Canada
		Mathilde Desrues	Terresrial Laser Scanning time series analysis for landslide geometry and thickness inversion	University of Strasbourg, France
		Marc Janeras	Checking the complementarity of LiDAR / SfM terrain models derived from different platforms for rockfall projects	Cartographic and Geological Institute of Catalonia, Spain
		Alex Graham	Analysis of point cloud data to correlate geometric factors with rockfall pre-failure deformation patterns	Queen's University, Canada
		John Metzger	Coastal Area Dynamics: Data Elements, Monitoring Information and Substance for a Virtual Platform -- Supporting Operations and Creating Sectoral Change	IDS Georadar, USA
		David Bonneau	A super-voxel approach for granular sediment analysis: initial results	Queen's University, Canada
		Paul-Mark DiFrancesco	Analysis of the 17 June 2017 Karrat Fjord landslide generated tsunami in western Greenland	Queen's University, Canada
4:20	5:15	Interactive Session and Reception		
		Alexandra Boghosian	Hololens visualization of the Ross Ice Shelf	Lamont-Doherty Earth Observatory
		Simon Buckley	Enhanced excursions: how virtual field trips complement existing geoscience field activities	Uni Research CIPR, Norway
		Owen Fernley	Electromagnetic modelling for the web: Building HTML5 visualizers in exploration geophysics	Lamontagne Geophysics Ltd., Canada
		Holger Kessler	Demonstration of GroundHog	British Geological Survey, UK
		Nick Rosser	Live web-based presentation of 3D coastal rockfall	Durham University, UK
5:15	5:30	Assemble for Historical Tour of Kingston		
5:30	6:45	Historical Tour of Kingston and Walk to Dinner Cruise		
6:45	7:10	Boarding Dinner Cruise Boat		
7:15	11:15	Boat Departs and Dinner Cruise		

Friday 24th August

Time		Presenting Author	Title	Affiliation
8:00	8:30	Registration and Morning Coffee		
Session Chair: Dave Gauthier				
8:30	9:00	Regula Frauenfelder	KEYNOTE: The eye in the sky – Space- and air-borne monitoring of infrastructure deformation and geohazards	Norwegian Geotechnical Institute, Norway
9:00	9:15	Luigi Parente	Precise change detection despite inaccurate camera calibration	Loughborough University, UK
9:15	9:30	Anette Eltner	Time-lapse SfM for 4D reconstruction	TU Dresden, Germany
9:30	9:45	Jennifer Day	Photogrammetric inspection system for underground hydroelectic infrastructure	University of New Brunswick, Canada
9:45	10:00	Laurent Froideval	An open-source method for georeferenced SfM 3D models of outcrops	Normandie Univ, France
10:00	10:30	Coffee		
Session Chair: Thomas Dewez				
10:30	10:45	Ioannis Vazaios	Discontinuity trace identification and rockmass assessment from TLS data	Queen's University, Canada
10:45	11:00	Sophie Viseur	3D models of fracture corridors : analysis of their internal connectivity and density variability	Aix-Marseille University, France
11:00	11:15	Raymond Kennedy	Physical modelling of retrogressive, sensitive clay landslides	Queen's University, Canada
11:15	11:30	Megan van Veen	Slope monitoring using TLS at the Site C project - Effectively presenting results	BGC Engineering Inc., Canada
11:30	12:00	Joseph Wartman	KEYNOTE: Using Unmanned Aircraft Systems for automated assessment of rockfall hazards	University of Washington, USA
12:00	1:30	Lunch		
Session Chair: Rob Harrap				
1:30	1:45	Mathilde Desrues	Gravitational unstabilities: an automatic pipeline for the analysis of time series of high frequency terrestrial optical	University of Strasbourg, France
1:45	2:00	Marc-Henri Derron	Infrared Thermal Imaging for rock slope investigation - Potential and issues	University of Lausanne, Switzerland
2:00	2:15	Jonathan D. Aubertin	LiDAR appliations to underground rock blasting optimization	K+S Windsor Salt, Canada
2:15	2:30	Thomas Dewez	From underground laser scans to 3D urban geological and geotechnical models	BRGM – French Geological Survey, France
2:30	2:45	Guido Venturini	How virtual can become real: The advantages of a good geological reference model	Schnabel-SWS, Canada
2:45	3:15	Coffee		
3:15	5:00	Panel Discussion		
		Mark Diederichs	Opening Discussion	Queen's University, Canada
		Ryan Kromer D. Jean Hutchinson	Panel discussion and closing remarks	Queen's University, Canada

Notes

Notes

Immersive Geoscience

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