

Schulich School of Engineering / Department of Geomatics

# GeoDays 2019



February 22-25, 2019

Schulich School of Engineering CNRL Building | Calgary, Alberta

[ucalgary.ca/geomatics](http://ucalgary.ca/geomatics)

[www.nationalgeomaticscomp.com](http://www.nationalgeomaticscomp.com)

[www.geomathon.ca](http://www.geomathon.ca)

<https://www.ucalgary.ca/gess/>

# About

GeoDays 2019 is a series of Geomatics Engineering Events hosted and organised by Students and Faculty in the Department of Geomatics Engineering, in the Schulich School of Engineering.

These events include:



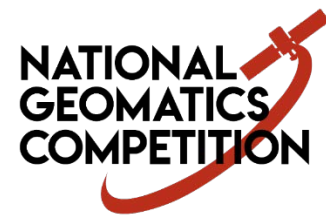
Canadian Geomatics Engineering Conference

## 1<sup>st</sup> Canadian Geomatics Conference - CGEC

This conference will give opportunity to the Geomatics Engineering Departments across Canada to meet, exchange ideas, and foster the inter-department collaboration for the benefit of our students, our programs, and our profession.

## National Geomatics Competition 2019 – NGC

After the success of last year's event in Fredericton, New Brunswick - hosted by University of New Brunswick - the University of Calgary is bringing NGC to Calgary, Alberta! The National Geomatics Competition (NGC) is a student-led consulting engineering competition based in the field of Geomatics. Our focus is to bring together students and industry representatives from across the country.



## Geomathon

Geomathon is an event to bring together Graduate Students from geospatial related fields, for a day of hacking, designing, and innovating. Geomathon, debuting this year in Calgary, is organized by the Geomatics Graduate Group (G<sup>3</sup>) in collaboration with the Department of Geomatics Engineering.

## Geomatics Exposition 2019 – EXPO

This career exposition - hosted every year by GESS (Geomatics Engineering Students Society) - provides the opportunity for geomatics students and industry to connect.

This is an opportunity for students to learn about the many careers a geomatics degree can offer as well as what our evolving technologies are being used for.



# Schedule

## Friday, February 22

NGC	Geomathon	CGEC	Geomatics EXPO
GoGeomatics Social	n/a	n/a	n/a

## Saturday, February 23

NGC	Geomathon	CGEC	Geomatics EXPO
Competition	Competition	Key Note & Panel	n/a
Lunch			
Competition	Poster Presentations	Competition	
		Faculty Meeting	
		GELC Committee	
40 <sup>th</sup> Anniversary Mix & Mingle Network - ALL			

## Sunday, February 24

NGC	Geomathon	CGEC	Geomatics EXPO
NovAtel Breakfast & Site Visit	Judging and Awards	n/a	n/a
	Open Technical Workshop		
Lunch			
Industry Presentations			
NGC Awards Gala (Industry Panel and Keynote)			

## Monday, February 25

NGC	Geomathon	CGEC	Geomatics EXPO
n/a	n/a	n/a	Breakfast
			Expo Booths
			Closing Event

# Canadian Geomatics Engineering Conference

## About the Conference

In conjunction with GeoDays 2019, the Department of Geomatics Engineering at the University of Calgary and in consultation with other Geomatics Engineering Departments in Canada is hosting the 1st Canadian Geomatics Engineering Conference. This conference will give the opportunity to the Geomatics Engineering Departments/Programs in Canada (UNB, ULaval, YorkU, Ryerson, UCalgary) to meet, exchange ideas, and foster the inter-department collaboration for the benefit of our students, our programs, and our profession. We aspire to see this Conference developed into a full-fledged Canadian conference on Geomatics in general. A conference that will include a scientific program, while at the same time will offer the opportunity for the academia in Canada to meet on a regular basis, stay connected, and join forces to face future challenges.

## Geomatics Engineering Programs in Canada – Past, Present, and Future

Representatives from the four departments to present the undergraduate and graduate programs (10 min each school). Provide input on practices, success stories, challenges, enrollment status, trends, and collaboration with industry, funding, outreach activities.

## Panel: Geomatics Engineering Program and the Profession in Canada

Questions (for them to answer – each panelist speaks for 10min):

- The enrollment in Geomatics Engineering programs is low. Are there any indicators that there is a demand for increased numbers of geomatics engineering graduates?
- Geomatics Engineering is a small discipline and profession. Is it indispensable to modern society? Could Geomatics Engineers expertise be replaced by other engineers or scientists?
- Should the scope of the Geomatics engineering programs expand to increase demand of the program? What new topics should be addressed to meet the needs of the future?
- The lack of awareness about Geomatics Engineering is a challenge of all programs inside and outside Canada. What actions should be taken to increase awareness?

## Q&A to Panelists – Reflections

Invite people from industry and academia – in the invitation letter ask them to be active in this session.

# KeyNote Speakers

## Jon Salter

**Associate Director of Education and Research, ESRI**

Jon joined Esri Canada in 2019 as Associate Director of Education and Research. He has over 20 years of GIS research and consulting experience, applying it to forestry, multiple objective landscape planning, and urban planning and design. Jon completed his PhD at UBC's Institute for Resources, Environment and Sustainability on community-scale energy planning. Before joining Esri Canada he was a senior researcher at UBC's School of Architecture and Landscape Architecture, managing an urban planning and design lab that explores interactions between energy, greenhouse gas emissions, and the built environment. Unifying themes in Jon's research include the use of GIS, 3D visualization and scenario planning to explore sustainable futures.

## Georgia Fotopoulos

**Professor, Queen's University**

Georgia Fotopoulos, PhD, PEng is a professor in the Department of Geological Sciences and Geological Engineering at Queen's University, Canada. Her research interests focus on satellite and physical geodesy, height systems, surveying and remote sensing applications using multi-platform observational systems. She received her PhD from the University of Calgary in the Department of Geomatics Engineering and has served as a professor in the Department of Civil Engineering at the University of Toronto and the Geosciences Department at the University of Texas at Dallas. Over the past two decades Dr. Fotopoulos has been involved in undergraduate and graduate level teaching of various Geomatics engineering topics for science and engineering applications. She is a registered professional engineer and a member of the PEO Equity and Diversity Committee. Dr. Fotopoulos is the Canadian national correspondent for the International Association of Geodesy.

# Panelists

## Dr Chris Goodall – Managing Director, InvenSense

**Saturday 23<sup>rd</sup> February | 10.10 am | ENC 070**

## Sandy Kennedy – VP Innovation, Hexagon PI

**Saturday 23<sup>rd</sup> February | 10.10 am | ENC 070**

## Marie Robidoux – CBEPS Registrar

**Saturday 23<sup>rd</sup> February | 10.10 am | ENC 070**

## Dr Yang Gao – University of Calgary

**Saturday 23<sup>rd</sup> February | 10.10 am | ENC 070**

## Dr Sameh Nassar – SAIT

**Saturday 23<sup>rd</sup> February | 10.10 am | ENC 070**

## Lunch

Booths provided to Geomatics Engineering Schools; students will interact with reps from Schools (flyers and posters)

## Graduate Student Posters

Student	Supervisor	Area
Zhang, Shu	Derek Lichti	Digital Imaging Systems
Jia, Fengman	Derek Lichti	Digital Imaging Systems
Hadavand, Zahra	Derek Lichti	Digital Imaging Systems
Al-Durgham, Kaleel	Derek Lichti	Digital Imaging Systems
Jarron, David	Derek Lichti	Digital Imaging Systems
Jones, Kent	Derek Lichti	Digital Imaging Systems
Cortes, Camillo	Mozhdeh Shabhazi	Digital Imaging Systems
Eshragh, Faezeh	Mozhdeh Shabhazi	Digital Imaging Systems
Muthama, Dennis	Mike Barry	GIScience and Land Tenure
Pullano, Dillon	Mike Barry	GIScience and Land Tenure
Zahran, Shady	Naser El-Sheimy	Positioning, Navigation and Wireless Location
Moussa, Mohamed	Naser El-Sheimy	Positioning, Navigation and Wireless Location
Sideris, Dimitris	Michael Sideris	Geodesy
Kuczynska-Siehien, Joanna	Michael Sideris	Geodesy
Akbari, Masume	Michael Sideris	Geodesy
Cui, Ge	Xin Wang	GIScience and Land Tenure

## Geomatics Engineering Faculty Meeting (Open to Faculty only)

- Topics
  - Funding opportunities (NSERC, CFI etc., as well as government agencies, industry and even CSA and international opportunities)
  - Foster collaboration between schools (in research and teaching – share courses, exchange programs)
  - Accreditation (actions to improve the accreditation scheme)
  - Strategies to increase Enrollment (undergraduate and graduate programs)
  - Plan for the 2<sup>nd</sup> CGEC (organizer, program committee, tentative topics, duration, scientific program)

# Schedule

## Saturday, February 23rd

	ENC 070	ENB 112	ENC 070 Gallery
8.00 – 8:15	Opening Remarks		
8.15 – 9.00	Geomatics Engineering Profession and the role of Engineering Schools – Challenges and Opportunities <ul style="list-style-type: none"> <li>• Dr. Jon Salter</li> <li>• Dr. Georgia Fotopoulos</li> </ul>		
9.00 – 9.50	Geomatics Engineering Schools in Canada – Past, Present, and Future <ul style="list-style-type: none"> <li>• University of New Brunswick</li> <li>• University of York</li> <li>• Université Laval</li> <li>• University of Calgary</li> </ul>		
9.50 – 10.10	Break		
10.10 – 11.00	Panel: Geomatics Engineering Program and the Profession in Canada <ul style="list-style-type: none"> <li>• Industry:               <ul style="list-style-type: none"> <li>○ Dr. Chris Goodall, Managing Director, InvenSense;</li> <li>○ Sandy Kennedy, VP Innovation, Hexagon PI</li> </ul> </li> <li>• Academia:               <ul style="list-style-type: none"> <li>○ Dr. Yang Gao, University of Calgary;</li> <li>○ Dr. Sameh Nassar, Instructor, SAIT</li> </ul> </li> <li>• CBEPS:               <ul style="list-style-type: none"> <li>○ Marie Robidoux, Registrar, CBEPS</li> </ul> </li> </ul>		
11.00 – 11:40	Q&A to Panelists - Reflections		
11.40 – 12.30	Lunch		
12:30 – 2:00		Geomatics Engineering Faculty Meeting <b>(Faculty Only)</b>	Post-Secondary Institution Booths
6.00 – 8.00			Industry, Faculty & Student Mix & Mingle



# Geomathon

Saturday, February 23rd

	ENC 070	ENG 024	ENC 070 Gallery/Loft
8.00 – 8:15 a.m.	Opening Remarks		
8.15 – 8:55 a.m.		Case Briefing	
8.55 – 9:10 a.m.		Competition	
9.10 – 10:00 a.m.			
10.30 – 10.40 a.m.			
10.40 – 11:45 a.m.			
11.45 – 12.30	Lunch		
12:30 – 2:00 p.m.			Graduate Poster Presentation
2:00 – 5.00 p.m.			
6.00 – 8.00 p.m.			Industry, Faculty & Student 40 <sup>th</sup> Anniversary Mix & Mingle

# Geomathon

Sunday, February 24th

	ENC 070	EASC	Red & White Club	ENGG 230
8.00 – 11.00	Presentation & Awards		n/a	
11.00 – 12:00	Trimble Workshop			
12.00 – 1.00	Lunch			
1:00 – 1:30		Industry Interviews TBC		TDK InvenSense Presentation
1.30 – 2.00				Occipital Presentation:
2.00 – 2.30				
2.30 – 3.00				
3.00 – 3.30				
Rest/Break				
5.00 – 5.30			NGC Award Gala Arrival	
5.30 – 6.00			Panel	
6.30			Dinner starts	
6.45 – 7.30			Keynote: Ivan Maddox, Intermap Technologies	

# NGC Conference

## Presentations (Open to ALL)

### Industry Presentation 1 – Challenger Geomatics

Sunday 24<sup>th</sup> February | 1.00 pm | ENC 070

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### Industry Presentation 2 – WSP

Sunday 24<sup>th</sup> February | 1.30 pm | ENC 070

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### Industry Presentation 3 – Stantec

Sunday 24<sup>th</sup> February | 2.00 pm | ENC 070

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### Industry Presentation 4 – Professional Surveyor's of Canada

February 24<sup>th</sup> | 2.30 pm | ENC 070

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### Industry Presentation 5 – McElhanney

February 24<sup>th</sup> | 3.00 pm | ENC 070

# Awards Gala – National Geomatics Competition

(Open to Ticket Holders)

## Industry Panel

**Sunday 25<sup>th</sup> February | 5.30 pm | Red & White Club**

Challenger

McElhanney

NovAtel

Professional Surveyor's of Canada

Stantec

Trimble

WSP

## KeyNote Speaker

**Ivan Maddox - Executive Vice President Commercial Solutions, Intermap**

**Sunday 25<sup>th</sup> February | 6.450 pm | Red & White Club**

Mr. Maddox is a Surveying Engineer (University of Calgary, class of '96) who has over 20 years of experience transforming geospatial information into solutions. Early in his career, he conducted geophysical surveys around the world to support oil and gas exploration. In 2000, he joined Intermap Technologies to support global mapping operations, and over the next six years he helped build Intermap's archive of global geospatial datasets. In 2006, he moved to Intermap's Denver headquarters to manage all mapping operations and, eventually, Denver-based production. For the past six years, Mr. Maddox has been the product manager for InsitePro®, Intermap's flood risk assessment software that has made flood insurance possible for many homeowners in previously under-insured regions of the US and Canada. Today, as EVP of Commercial Solutions, Ivan is bringing together proprietary geospatial data and cutting-edge analytics to deliver effective and innovative software into new markets.

# Schedule – National Geomatics Competition

## Saturday, February 23rd

	ENC 070	ENG 230	Various Rooms
8.00 – 8:15	Opening Remarks		
8.15 – 8:45		Case Briefing	
8.45 - 10:00			
10.30 – 10.40	Break		Students Work on the Competition in groups of 3
10.40 – 11:45			
11.45 – 12.30	Lunch		
12:30 – 2:00			
3:00 – 5.00			
6.00 – 7.30	Presentations & Judging		Industry, Faculty & Student Networking Mix & Mingle
7.30 – 8.00			

## Sunday, February 24th

	ENC 070	EASC	Red & White Club	Offsite
9.00 - 12:00				NovAtel Breakfast Site Visit  <b>NGC Delegates Only</b>
12.00 – 1.00	Lunch			
1:00 – 1:30	Challenger Geomatics Presentation	Industry Interviews TBC	n/a	
1.30 – 2.00	WSP Presentation			
2.00 – 2.30	Stantec Presentation			
2.30 – 3.00	Professional Surveyor's Presentation			
3.00 – 3.30	McElhanney Presentation			
Rest/Break				
5.00 – 5.30			NGC Award Gala Arrival	
5.30 – 6.00			Panel	
6.30			Dinner starts	
6.45 – 7.30			Keynote: Ivan Maddox, Intermap	

# Schedule - Geomatics Exposition

## Monday, February 25th

	ENG Atrium	Bottom of Social Staircase	Black Lounge
8.00 – 9.00	Breakfast		n/a
9.00 – 3:00	Career Exposition		
11.30 – 12.00.		Interactive Info Session - Trimble	
11.00 – 11.20		Interactive Info Session - ESRI	
11.30 – 12.00			
12.00 – 1.00	Lunch		
1:00 – 1:30	Career Exposition		
1.30 – 2.00			
2.00 – 2.30			
2.30 – 4.00			
4.00 – 10.00			Closing Event

## Interactive Info Sessions

### Interactive Information Session – Trimble

Monday 25<sup>th</sup> February | 11.00 am | Bottom of ENG Social Staircase

### Interactive Information Session Workshop – ESRI

Monday 25<sup>th</sup> February | 11.30 am | Bottom of ENG Social Staircase

## Workshops (Open to Grad & Undergrad)

### Industry Technical Workshop – ESRI

Tuesday 26<sup>th</sup> February | 8.00 am | TBC







# Sponsors

## National Geomatics & Geomatics Exposition

### Platinum



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### Silver



## Bronze



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## Media Sponsor



# Sponsors

## Geomathon

### Gold



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