



SCHULICH
School of Engineering

DEPARTMENT OF
GEOMATICS
ENGINEERING

DEPARTMENT OF GEOMATICS ENGINEERING

Geomatics News

TERM Fall YEAR 2016 • Volume 14, Issue 1

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COMING EVENTS

- GEOMATICS EXPOSITION
- WOMEN IN ENGINEERING DAY
- MECAHNICAL ENGINEERING MOVE TO MAIN COMPLEX
- GEOMATICS AWARD NIGHT
- APEGA SCIENCE OLYMPICS
- CALGARY YOURTH SCIENCE FAIR
-

Dear Valued Reader,

The fall semester featured many outreach events. We held our annual welcoming event for second-year Geomatics Engineering students in September with alumna Natasha Spokes speaking about her wide-range of experiences in geomatics and related industries. We also organized a first-year-student pizza event in the newly-renovated engineering lounge. Several research groups showed off their coolest equipment and many dedicated staff, student and faculty volunteers spent time talking to prospective students about the virtues of geomatics.

Our Department Manager, Tanya Brucker, went on leave in October and will return in August this year. We were very pleased to have recruited Barbara Ball to fill Tanya's role. Barbara comes to our department with an MSc in GIS, along with 15+ years of progressive management, business development, and technical experience in the energy sector. Barbara is a well-rounded leader who continually develops her skills with additional courses and volunteer experience.

Thankfully, Barbara was able to adapt quickly and fit in right away.

The Department was able to welcome several prominent guest speakers during the fall semester. Dr Clive Fraser from the University of Melbourne, Australia, spoke on the *Evolution of Close Range Photogrammetry* in September. In November, Dr Bert Veenendaal from Curtin University, Australia, gave a presentation entitled *Engaging with Location—Challenges and Opportunities in the Spatial Sciences*. Dr David Dodd from IIC Technologies in Vancouver gave a presentation on the latest developments in hydrographic surveying in December.

The Department took possession of the new Survey Stores in October. Located in the completely-renovated basement of E-block, it is a much larger space than the old room on the third floor. Furthermore, it has direct access to outside, so students won't have to haul survey equipment up and down stairs. Finally, I must conclude on a very sad note. Dr Danielle Marceau passed away in October. She was a great colleague whose many contributions to the department will not soon be forgotten.

She was also a dear friend and supporter. With her seemingly boundless energy and passion, she worked tirelessly to improve the rigour of our graduate programs and the quality of life for our graduate students. The benefits of Danielle's efforts will be felt by graduate students for many years to come. Her kindness, willingness to help and positive outlook toward life will be deeply missed.

Derek Lichti
Professor and Head



@UofC_Geomatics



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Dr. Steve Liang was awarded the 2016 Killam Emerging Research Leader Award (NSERC) - He was nominated by Dean Rosehart and this award is given to individuals who have made outstanding contributions to research in an area recognized by CIHR, NSERC or SSHRC.

Yan Xiang, under the supervision of Dr. Yang Gao, won a Student Paper Award and Best Presentation Award for her paper titled "DCB Estimation Based on Uncombined PPP" at ION GNSS 2016.

Dr. Steve Liang was named as an expert panelist on the State of Science & Technology and Industrial Research & Development in Canada.

Dr. Steve Liang was featured in the Metro News in an article about how he is working on Air quality crowdsourcing using the Internet of Things. <http://www.metronews.ca/news/calgary/2016/09/27/calgary-sensor-pilot-helps-you-plan-a-run-best-air-quality.html>

Drs. Yang Gao and Naser El-Sheimy received NSERC Strategic Grant for Sensors for IoT Mobile Devices. This project aims at developing a new integrated GNSS/INS system to enable high availability precise positioning using low-cost GNSS and MEMS inertial sensors for IoT mobile devices.

Drs. Ruisheng Wang and Xin Wang were awarded the Core Research Equipment Initiative.

Dr. Michael Sideris was invited to give a talk and be a member of the international panel at the "Earth and Space Observations for Disaster Risk Assessment" event, which was organized by the International Union of Geodesy and Geophysics (IUGG) and the Russian Hydro-Meteorological Agency (RosHydroMet) during the XIII Plenary of the Group on Earth Observations (GEO, www.earthobservations.org) in St. Petersburg, Russian Federation, November 7-10, 2016. At this Plenary meeting Dr. Sideris was also re-elected as a member of the GEO Program board for the period of 2017-2019

SSE Awards Announced at the Dean's Holiday Luncheon, congratulations to all the Award recipients from all the Departments.

Teaching Assistant Excellence

- Erin Kahr
- Mostafa Arastounia

Teaching Excellence

- Dr. Naser El-Sheimy

Geomatics Awards voted on by the Undergraduate Students

- Third and Fourth Year Dinner Award was given to Dr. Michael Collins
- Graduate Banquet Award was given to Dr. Michael Barry



Faculty Spotlight

Pleased to be back!

In 2001 I left the Department of Geomatics Engineering for industry with a still-pretty-new PhD in hand and 5 years of experience under my belt as a researcher and postdoctoral fellow in the areas of airborne gravimetry and mobile mapping.

I loved my field and I enjoyed my work. But if I'm honest about it, I had no idea then which direction to go and only an inkling of what I wanted out of my career. On one hand I used to joke that there were only 45 other people on the planet who knew or cared as much about the work I'd just spent a nearly decade learning to carry out. And on the other, I didn't yet know how well my experiences as a grad student had prepared me for a career both in geomatics engineering and beyond.

But I had been prepared and in hindsight I wouldn't trade a thing. I'd received a solid engineering education from an internationally recognized department. The experience had taken me to amazing places, including the top of the Calgary Tower with a then leading-edge IMU in hand, the coast of Brazil where I shared the results of my research, and the ice floes of Greenland over which I flew in a plane while testing a prototype gravimeter we later commercialized.



I'd worked, taught, and spoken to groups ranging in size from 5 to 200 people. And I'd built a pre-network that helped me land my first jobs at Applanix Corporation in Toronto, and Intermap Technologies here in Calgary.

All of this helped me land exciting roles in industry, such as being an engineer, inventor, product and project manager, senior business consultant, member of boards and councils, and invited speaker. And, more recently, I've been co-founder and lead businessperson for three start-up companies.

The latter experiences led me to my second discipline of entrepreneurship, to an almost accidental academic career in that area, and, in turn, to a return to the University of Calgary; last July I was thrilled to begin a

position in geomatics and engineering entrepreneurship.

My work in innovation and entrepreneurship

In 2007, I joined Mount Royal University where I became a tenured associate professor in the areas of innovation and entrepreneurship. In that role I led the faculty team that developed a new curriculum and cross-campus Minor in those fields. Through that work we made the case for a new Institute and raised over \$3 million to sustainably support a director's position and associated operating budget.

During my seven years at MRU, I was recognized with several external awards including "Entrepreneurial Educator of the Year in Canada" in 2012, an award

given to: "recognize the significant contributions made by the education sector to Canada's economic growth and prosperity [... to] leaders raising the profile of entrepreneurship through the education system through a commitment to the promotion of entrepreneurship among students, faculty and community. The award winner is known for providing the guidance and resources necessary for future Canadian entrepreneurs to succeed."

In 2014 I left my tenured position to build an open education and innovation design firm that helps people learn to innovate, and to launch the Spark School for Innovation by Design, which I believe was western Canada's first innovation design school.

And today my work continues to be helping people (learn to) become more innovative and

Faculty Spotlight

entrepreneurial. I've been fortunate to speak and coach faculty and corporate teams from around the world – including an invited talk at Google during one of their innovation weeks, and corporate and faculty development workshops in places ranging from Mason City, to Mexico, to Moscow on how to teach, learn and assess for entrepreneurial leadership. I also conduct research into topics related to innovation, ideation, idea modeling, deliberate opportunity design, and the scholarship of teaching and learning for innovation and entrepreneurship.

I look forward to seeing what opportunities arise at the

University of Calgary for carrying out and contributing to this kind of work.

Coffee + things I'd love you to ask me about

The common threads throughout all of this have been my love of teaching, and what has me jumping out of bed every morning (other than my two little girls) is the relentless pursuit of better ways to help people succeed in their careers, their engineering, entrepreneurial and leadership endeavours, and their research. So being a senior instructor in these areas at the Schulich School of Engineering is a dream job.

I've been very grateful for the kind reception I've already received from our colleagues, and for your interest in my work. I'd love to connect with you to learn more about what you do and will gladly buy the coffee.

In the meantime, here are three things I'd love the chance to tell you about and on which I'd welcome and appreciate your feedback:.

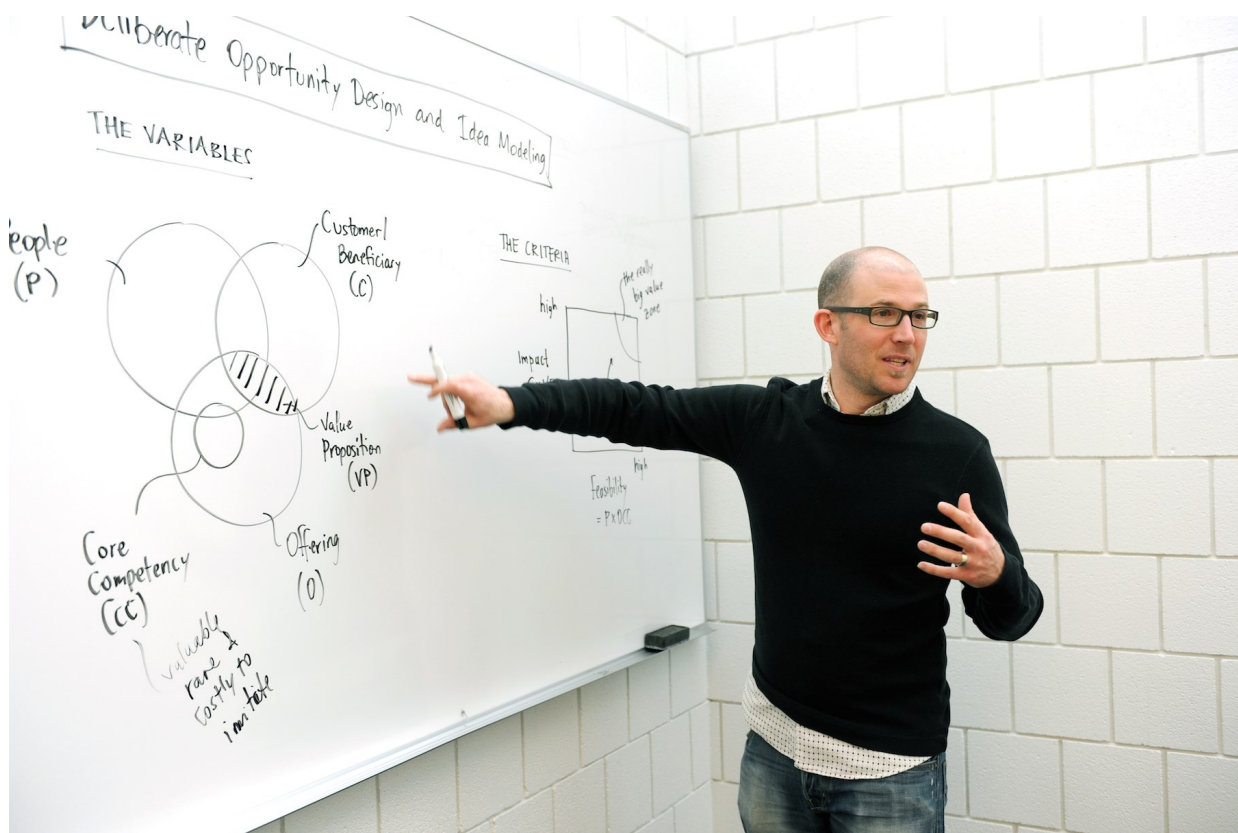
- Prototype resources that I developed when teaching Geomatics Networks in Fall 2016: <http://practicalgeomatics.com/courses/geomatics-networks>

- A TEDx talk I gave recently on the topic of Innovation Literacy: <https://youtu.be/TmopjQZ87vE>
- An upcoming visit to SDSU to deliver a keynote, a faculty development workshop, and an interactive clinic-style workshop for entrepreneurs: <http://www.sdstate.edu/news/2017/02/award-winning-entrepreneurial-educator-speak-launch>

Thank you!

Alex.

Dr. Alex Bruton, P.Eng., MBA



Introducing 2016-2017 GESS Council

Council Positions

Nathan Patton—President
 David Jarron—VP Academic
 Steve Schroeder—VP External
 Colin Edgar—VP Finance
 Angela Ellithorpe—VP Events
 Jed Kroeker—Event Commissioner
 Kiera Fulton—Artistic Commissioner
 Braeden Kwok—4th Year Rep
 Soroosh Sadeghi—3rd Year Rep
 Miriam Deitz—2nd year Rep
 Esther Cho—Secretary
 Jennifer Busser—Webmaster
 Calvin Bochulak—Switzerland Commissioner
 Christine Cao—Switzerland Commissioner
 Madison Shevchuk—Geomatics Exposition Commissioner



Top Row (L to R):

Jed Kroeker, Colin Edgar, Madison Shevchuk, Steve Schroeder

Middle Row (L to R):

Angela Ellithorpe, Kiera Fulton, Nathan Patton, David Jaron, Braeden Kwok, Soroosh Sadeghi

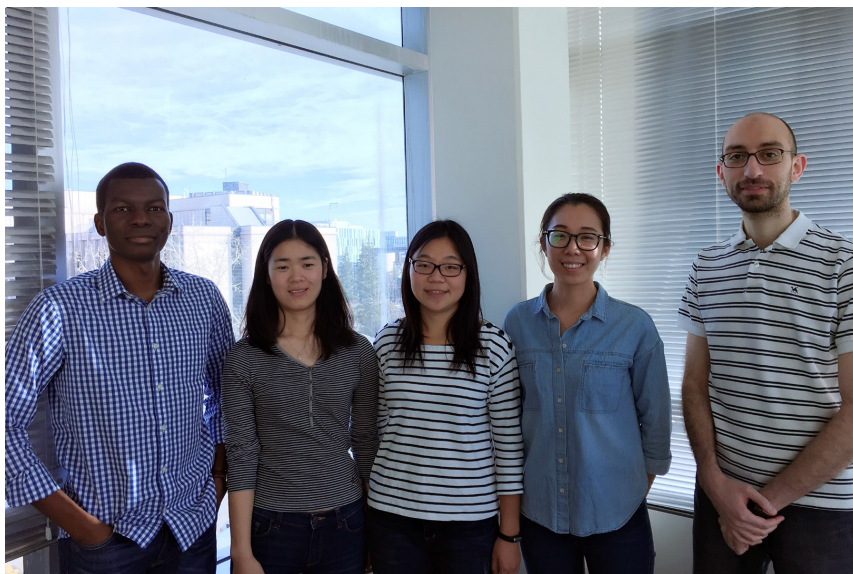
Front Row (L to R):

Miriam Deitz, Ester Cho

Missing:

Jennifer Busser, Calvin Bochulak, Christine Cao

Introducing 2016-2017 G^3 Council



Council Positions

Yan Xiang—President
 Paul Gakne—Vice President
 Melissa Ma—Treasurer
 Fengman Jia—Secretary
 Mostafa Sakr—GRC

From Left to Right:

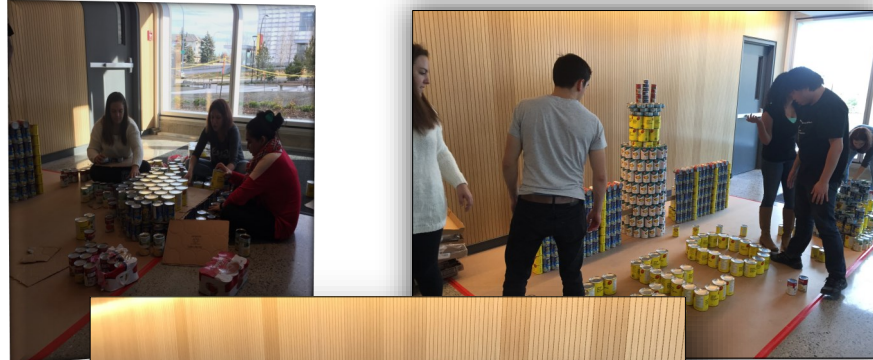
Paul Gakne
 Yan Xiang
 Melissa Ma
 Fengman Jia
 Mostafa Sakr

Geomatics Fall Term Events

2nd, 3rd and 4th Year Welcome Back Presentation given by Natasha Spoke September 20, 2016



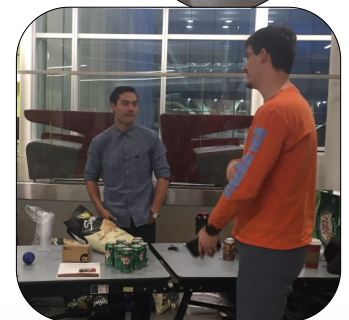
SSE Can Construction—CNRL Building Opening



Halloween Pumpkin Carving Contest, enjoyed by Faculty, Staff and Graduate Students



1st Year Engineering Recruitment that showcased some different areas of Geomatics and engaged Graduate, Undergraduate students and some of our new Faculty members in outreach to educate 1st Year Engineering students about Geomatics.



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