

Geocetera

Department of Earth Sciences Newsletter

SIMON FRASER UNIVERSITY

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Message from the chair....

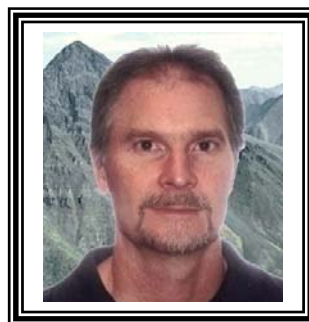
The Department underwent a seven-year external review in March, 2011, that examined everything from undergraduate and graduate instruction to research, space and governance. Diana Allen kindly took over the role of Department Chair during the time of the review, while I was absent unexpectedly. The review team consisted of Iain Samson (University of Windsor), Carolyn Eyles (McMaster University), and Robin Renaut (University of Saskatchewan). They provided a positive description of the Department, and made several suggestions on how we could do some things better, and how we should prepare for the next several years. Their comments underline the need for Earth Sciences to develop a strategic plan for research directions and future hiring, alongside adjustments to the undergraduate program. We are grateful to the review team for its clear and direct report, to George Agnes (Chemistry) for guiding the team through the review process, to Claire Cupples (Dean of Science) for her support, and to senior University administration for its oversight. Responding to the recommendations of the review will be pivotal to the continued growth and evolution of the Department of Earth Sciences.

Our two newest developments in the undergraduate program are the establishment of a Water Science Program, in conjunction with the Faculty of Environment, and a Joint Major with the Department of Chemistry (pending approval). These advancements represent a change in focus of Earth Sciences toward greater integration with other academic units.

I would like to congratulate all of the recent graduates from Earth Sciences, both undergraduate and graduate. Your youthful enthusiasm and dedication to achievement have made our academic unit an enviable place to 'live'. Best of luck to all of you. Enjoy the next steps in your careers.

It is with great pleasure and satisfaction that I look back on my five year term as Chair, and look forward to the next three years with James MacEachern at the helm. James will be faced with a challenging array of responsibilities including attending to the items in the seven-year review. Dr. MacEachern is enthusiastically supported by the faculty and staff in Earth Sciences, and I am confident that he will continue to tune our programs to the needs of students and guide the Department into an exciting new era of growth and collaboration.

Derek Thorkelson



AWARDS & HONOURS



Mary Ann Middleton has been awarded a Pacific Institute for Climate Solutions (PICS) Fellowship. Congratulations Mary Ann.



Andrew MacDougall (recent M.Sc. graduate) was awarded a NSERC CGS-D for his doctoral studies at the University of Victoria School of Earth and Ocean Sciences starting in 2011.



Congratulations to **Nick Roberts** on winning the Ta Liang Memorial Award and the GeoEye Award from the American Society for Photogrammetry and Remote Sensing.



President's Research Stipend

Congratulations to the following students who received the President's Research Stipend:

Spring 2011

Francesca Furlanetto
Eric Takam Takougang

Summer 2011

Alireza Morshedian
Laurie Neilson-Welch
Derek Turner



Travel & Minor Research Award

The purpose of the Travel and Minor Research Award is to support the travel component of the scholarly activity of a graduate student related to their research. Congratulations to the following:

Korhan Ayranci
Courtenay Brown
Lucas Fuhrman
Laurie Neilson-Welch
Jolane Sorge
Eric Takam Takougang



Graduate Fellowship

Congratulations to the following students who received Graduate Fellowships:

Spring 2011

Laurie Neilson-Welch
Jolane Sorge

Summer 2011

Korhan Ayranci
Fuqiang Gao
Kirsti Medig
Mary Ann Middleton
Stephen Newman
Dave Sacco
Nat Wilson

AWARDS & HONORS



Natural Sciences and Engineering
Research Council of Canada

Undergraduate Student Research Award

These awards are meant to stimulate interest in research in the natural sciences and engineering and to encourage undergraduate students to undertake graduate studies and pursue a research career in these fields.

Congratulations to the following students who received a USRA for Summer 2011:

Leah Brulott (Allen)

Carie-Ann Hancock (Clague)

Vanessa MacLean (Gibson)



Vice President, Research Undergraduate Student Research Award

The Vice-President, Research (VPR), will be supporting undergraduate students who are working with faculty members who hold research grants (independent of source) through the VPR USRA program.

Congratulations to:

Bonn Coyuco (Dashtgard)



Canadian Society of
Petroleum Geologists
www.cspg.org



STUDENT INDUSTRY FIELD TRIP

Timothy Peters was chosen as the representative from SFU to attend the 2011 Student Industry Field Trip in Calgary.



Marie Curie Fellowships

Mauro Werder, a postdoctoral fellow in the EASC Glaciology Group, received a "Marie Curie International Outgoing Fellowship". This prestigious fellowship awarded by the European Union will support him to continue working with Gwenn Flowers for another two years. The third year of the fellowship, intended to support research undertaken at an institution in Europe, will be spent at Bristol Glaciology Centre (University of Bristol, UK).

Mauro will continue his research on the subglacial drainage system, for which he is developing a 2D numerical model. Plans are to apply this model to alpine glaciers, to catchments of the Greenland ice sheet and to couple it to ice-sheet models. The long-term goal of this work is to improve the accuracy of ice-sheet models, including their projections of sea-level rise due to dynamical changes in ice flow.



NEW STUDENTS

Summer Semester

Flavien Beaud (PhD) (Gwenn Flowers)
Jeff Zurek (PhD) (Glyn Williams-Jones)

DEFENSES & COLLOQUIUMS

Sung Lee defended his MSc Thesis on Monday June 13th, 2011. Title: "Characterizing Highwall Slopes at the Line Creek Mine, BC using Terrestrial Photogrammetry."

Chris Henry defended his MSc Thesis on "An Integrated Approach to Estimating Groundwater Recharge and Storage Variability in Southern Mali, Africa" on Friday June 10th, 2011.

Rafael Cavalcanti de Albuquerque defended his MSc Thesis on Monday June 6th, 2011. Title: "Hydrogeochemical Evolution and Arsenic Mobilization in Confined Aquifers Formed within Glaciomarine Sediments."

Zack Tuckey presented his Colloquium on "Characterizing discontinuity persistence, termination and intact rock bridges using an integrated field mapping-numerical modeling approach" on Thursday, April 21st, 2011.

Nathaniel Wilson presented his Colloquium on Wednesday, April 20th, 2011. Title: "Thermal Structure Characterization, Attribution, and Consequences Within Polythermal Glaciers, St. Elias Range, Yukon Territory."

Leila Ertolahti presented her Colloquium on "Contemporary subsidence of the Fraser River delta inferred from SqueeSAR type INSAR data" on Monday, April 18th, 2011.

Meghan Hewton presented her Colloquium on "Geology, petrogenesis and characterization of the Mountain River beryl showing, Mackenzie Mountains, NT, Canada" on Tuesday, April 12th, 2011.

Kirsti Medig presented her PhD Oral Exam on "Stratigraphy, Geochronology, and Paleo-environmental Reconstruction of the Proterozoic Pinguicula Group, Northern Yukon" on Monday, April 11th, 2011.

Korhan Ayranci presented his PhD Oral Exam on Wednesday, March 23rd, 2011. Title: "Facies Modelling of a Tide-Influenced, River-Dominated Delta, Fraser River Delta, BC, Canada".

Reid Staples presented his PhD Oral Exam on "Tectono-metamorphic evolution of Yukon-Tanana terrane, south-central Yukon Territory" on Thursday, December 16th, 2010.

Fuqiang Gao presented his PhD Oral Exam on Thursday, December 2, 2010. Title: "Investigation on roof failure in Chinese coal mine roadways through an integrated numerical modeling-field characterization approach".

Andrew Wolter presented her PhD Oral Exam on "An engineering geomorphological characterization of large rockslides using an integrated field-based and numerical modeling approach" on Tuesday, November 23rd, 2010.

GRADUATE DEGREES



<i>Student</i>	<i>Thesis Title</i>	<i>Defended</i>
Amber Church (MSc)	Recent Deglaciation of the Upper Wheaton River Watershed, Yukon.	November 8 th , 2010
Gabe Hensold (MSc)	An integrated study of deep-seated gravitational slope deformations at Handcar Peak, Southwestern BC.	March 24 th , 2011
Andrew MacDougall (MSc)	Distributed energy-balance glacier melt-modelling in the Donjek Range of the St. Elias Mountains, Yukon Territory, Canada: model transferability in space and time.	October 20, 2010
Peter Schon (MSc)	Stability and Mechanism of Failure of The Barrier, Southwest BC.	April 24 th , 2011
Dan Shugar (PhD)	Rock Avalanches on Glaciers	April 14 th , 2011
Chad Sisulak (MSc)	Seasonal controls on the development and character of inclined heterolithic stratification in a tide-influenced, fluvially dominated channel, Fraser River, Canada.	March 17 th , 2011
Kayla Vickers (MSc)	Quaternary Geology of Bluegoose Prairie, Baffin Island, Nunavut.	April 13 th , 2011
Nathalie Vigouroux-Caillibot (PhD)	Tracking the Evolution of Magmatic Volatiles from the Mantle to the Atmosphere using Integrative Geochemical and Geophysical Methods.	January 7 th , 2011
Jeff Zurek (MSc)	Characterizing the Plumbing Systems of Active volcanoes through Potential Field Studies.	November 15 th , 2010



JUNE 15TH, 2011 CONVOCATION

(Undergraduates)

Harm Demon	Major Environmental Science
Gerald Holmes	Major
Megan Jamer (James MacEachern)	Honours Geology
Nikki Johnston	Major Geology
Meghan Kline (Brent Ward)	Honours Environmental Science
Lara Loughrey	Major Geology
John Mayer (Diana Allen / Dan Gibson)	Honours General Earth Sciences
Deepak Varshney	Major Geology
Christopher Weldon	Major Geology



New Editions



Congratulations to Glyn and Isabelle on the birth of Liam Yvan Williams-Jones. He was born on January 30th and weighed 3 lbs 14 oz and was 16.6 inches long.



Shahin and Nerissa are the proud parents to Darius Exton Dashtgard. Born at 12:22 am on Sunday, May 15th and weighed in at 6 lb 11 oz and is



VISITORS

We are pleased to have the following visitors this fall:



Caroline Clason

PhD visiting scholar with the Glaciology Group won an "outstanding Student Paper Award" from the American Geophysical Union for her presentation at the December 2010 meeting in San Francisco. Her talk was entitled: "Modelling meltwater delivery to the ice-bed interface through full thickness fractures on outlet glaciers of the western Greenland Ice Sheet".



Alex Trapp

From the Water Resources, Engineering and Management (WAREM) Program at the University of Stuttgart, Germany working with Diana Allen.

NEWS



Congratulations to the 24 recipients of the Natural Resources and Applied Sciences (NRAS) Endowment awards, recognized by Premier Gordon Campbell at a luncheon celebrating excellence in BC's research and innovation.

The NRAS Endowment was established in 2006 with a \$50-million investment by the BC government. The fund was established to build research and development, advanced training, technology transfer and commercialization capacity in BC in the areas of engineering, natural resources and the applied sciences. The BCFRST Foundation has developed the research programs in collaboration with BCIC, dedicated to strengthening BC's knowledge economy through projects and programs that develop entrepreneurs and commercialize technologies. The evaluation of proposals and the administration of the funds are managed by the BCIC.

DOUG STEAD, SFU

Title: Improving mine safety, economics and sustainability through implementation of geotechnical innovation in British Columbia surface mines.

Project Summary: This project will aim to improve mine safety, economics and sustainability through implementation of geotechnical innovation in British Columbia surface mines. To achieve this, B.C. surface mines will receive state-of-the-art rock slope characterization, monitoring and numerical modeling techniques.

Award Amount: \$240,000

FIELD TRIPS

Instructor Robbie Dunlop gives riveting introduction to section measuring to EASC 306 (Field Geology II) students in early May, 2011.



John Clague led a group of three students and four faculty on a reconnaissance trip in Argentine and Chilean Patagonia in May 2011. The trip was made in support of Corinne Griffing, who is doing her PhD research on Pleistocene glaciation in Patagonia. Field-trip participants included Corinne, Nick Roberts, Leila Ertolahti, Dr. Olav Lian (University of Fraser Valley and an Adjunct Professor in EASC), Dr. Rene Barendregt (University of Lethbridge), Dr. Paul Sanborn (University of Northern BC), and Dr. Scott Smith (Agriculture Canada, Summerland). Although the weather was at times brutal (near-freezing temperatures and notorious Patagonia winds), the geology and the company were fantastic.



L to R: Paul Sanborn, John Clague, Scott Smith, Dr. Patagonia Penguino, Nick Roberts, Leila Ertolahti, Rene Barendregt

FIELD TRIPS



Members of EASC 406 led by Dr. Dan Marshall and teaching assistant Meghan Hewton, went to Southwestern United States April 26 Apr - May 11, 2011. Notable sites included Bingham Mine, Grand Canyon, Zion, Lehman Caves, and Meteor Crater. Sandstone was noted to be in tremendous abundance in these areas. The weather was uncooperative: it was windy, rainy and SNOWY... in the desert. Our searching skills were put to the test when we were let loose on a pile of high grade copper ore and ditch-picked for petrified wood. For some of the students this was their last course at Simon Fraser University. We wish them the best and enjoyed our time with them!