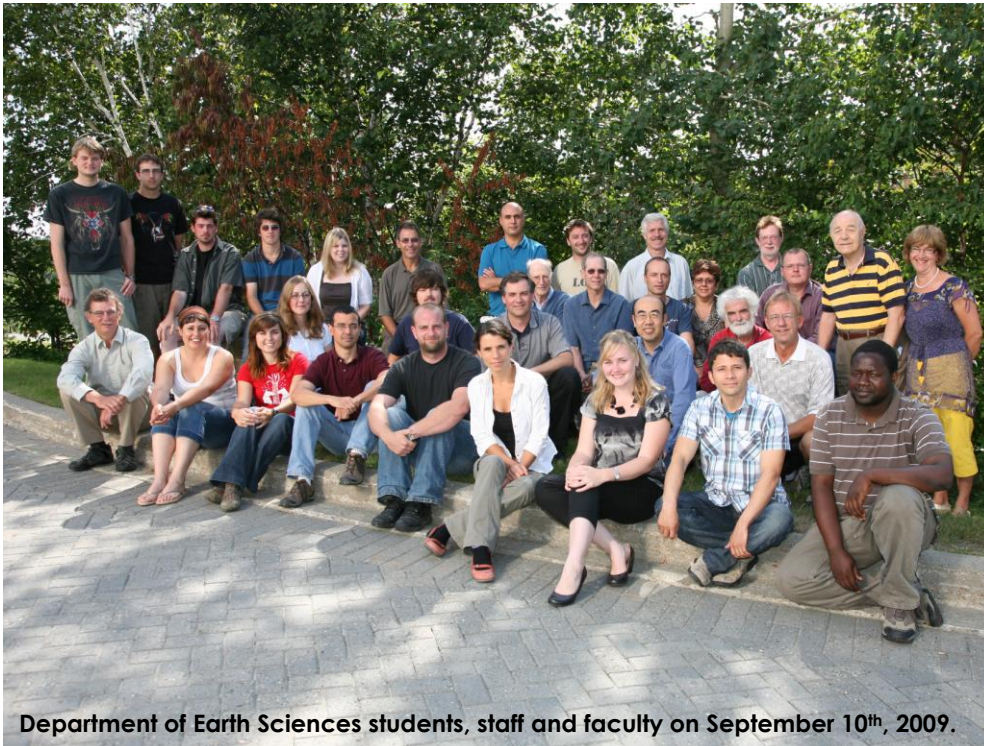


# Earth Sciences Alumni Newsletter

Issue 2

[www.earthsciences.laurentian.ca](http://www.earthsciences.laurentian.ca)

February 2010



Department of Earth Sciences students, staff and faculty on September 10<sup>th</sup>, 2009.

## Message from the Department Chair

Salutations to all and welcome to the 2010 Earth Sciences Newsletter! As I contemplated putting together the important news and happenings that occurred over the past year, I am reminded that time is the thread that links us all – past, present and future. This year, we will be hosting our inaugural **Alumni Night at the PDAC on March 9 from 18:30 to 20:00** and we invite all of those who have roots in this department to join us for a few hours of quality time – meeting our current students, recent graduates and those for whom graduation just seemed like yesterday. I am particularly looking forward to this event because it is a solid way to see where we have been and where we are going – to hold on to the history that has made this department!

The past year saw a number of successes in the Department of Earth Sciences (DES). Prof. Richard Smith joined us as a CEMI Research Chair in Exploration Geophysics. In December, he organized and taught in one of the most successful modular short courses we've ever had and starting in January, he really started to earn his pay by teaching fourth-year geophysics. In February, we also received approval to offer a new stream, Environmental Geosciences, which will complement our existing Earth Sciences stream, but offer a more focused option in environmental geochemistry. We are also working hard on organizing the 11<sup>th</sup> International Platinum Symposium, to be held at Laurentian from June 21-24, 2010. Our student numbers continue to grow, with our undergraduate numbers almost doubling overnight and our graduate programs (M.Sc. and Ph.D.) continue to increase. These folks are our future and our pride in their hard work and success is unparalleled.

This marks one of my last official duties as Departmental Chair as I will be stepping down July 1 and leaving the reins of power to the next person. I have very much enjoyed the challenges, successes and even the failures over my past three years at the helm mainly because of the fantastic group of students, faculty and support staff that I have had the unmitigated pleasure to work alongside. I also thank you, our current, past and even future alumni, for helping us along the path of success.

*With sincere regards and best wishes for future success, Andy McDonald*

## Highlights:

- *New stream in Environmental Geosciences starts this fall!*
- *SEG students back from Mexican field trip!*
- *Dr. Don Rousell publishes a new field guide for Sudbury geology!*
- *DES will host Platinum symposium in June!*



Dr. Andy McDonald,  
Department Chairman

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SUDBURY  
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JUNE 21-24 2010

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## LU-SEG Student Chapter's Mexican Field Trip.



LU-SEG group at the Fresnillo Silver Mine, Industrias Peñoles SA de CV, Zacatecas, Mexico.

The Laurentian University-SEG student chapter, with the help and guidance of Dr. Harold Gibson, organized a trip to visit several epithermal-PM and base metal deposits in Mexico from April 20 to 24, 2009. The ultimate goals were for the participants to learn about styles of epithermal and skarn mineralization, understand epithermal and skarn systems, and gain a greater understanding of the regional geology of the Sierra Madre Occidental. Seven students (Diana Kuiper, Caroline Mealin, Claire Somers, Nathalie Mantha, Lindsay Bygnes, Fabio Cafagna, and Michael Babechuk) participated on this trip. Several industry participants accompanied the group on the tours as well.

The trip included surface tours of the Veta Colorado property, the Velardeña skarn deposit, and roadside stops to catch a glimpse of the geology of the Sierra Madre Occidental. Mine stops included underground tours of the San Diego Mine of the Santa Barbara District and Fresnillo Mine where students were able to observe several styles of spectacular epithermal silver mineralization, as well as atypical strata-bound Zn-Cu-Ag replacement-style mineralization of the San Francisco I Madero deposit.

This trip was made possible through support from the SEG student chapter funding, donations made to the trip by Goldcorp Ltd., and other fund-raising work by members of LU-SEG. Special thanks to Ron Burk and Guillermo Lozano of Silver Standard Resources for their time and help in setting up the tours and helping arrange van rental and lodging. Thank-you to Sr. Sadot Gomez and Sr. Havier Garcia-Fons of Industrias Peñoles and Remigio Martinez of Grupo Mexico for providing the underground tours.

## New Environmental Stream in the B.Sc. Earth Sciences at Laurentian!

The Department of Earth Sciences now has two streams within the B.Sc. Earth Sciences program; Earth Sciences (geology) and Environmental Geosciences. The Environmental Geosciences stream is the new addition to the program. The advantage of adding an environmental component into the Earth Sciences program is that upon completion of their degree, students in this stream will meet the requirements for professional registration (APGO), like the Earth Sciences students currently do. The courses for both streams will remain the same for the first two years of study, however after this; students will be able to choose whether they would like to specialize in the environmental geosciences or the geological sciences. Students who decide to continue with the environment will be taking more courses in Biology, Geography and Chemistry than students enrolled in the traditional Earth Sciences program.

Dr. Michael Schindler, an Environmental Mineralogist who joined the Department of Earth Sciences in 2007, will be leading the new environmental stream. "I hope that in the future, student enrollment into the environmental stream in the B.Sc. Earth Sciences will be as high as the current earth sciences/geology enrollment!" says Dr. Schindler. Dr. Schindler is already conducting research within the environment by examining processes on mineral surfaces that occur(ed) in mine tailings, soils, in the former roast yards of the Sudbury area and in hydrothermal ore deposits (e.g. the potential formation of uraninite on the surface of alteration minerals in the unconformity-type uranium deposits at the Athabasca Basin).

## **MERC** News and Updates MINERAL EXPLORATION RESEARCH CENTRE

Based on the advice and guidance of our Advisory Board, which consists of senior representatives from industry and government, MERC will move towards establishing funding for a full-time Director and will focus on three areas of identified strength: 1) Ore Systems in Precambrian Terranes, 2) Education and Training, and 3) Exploration Targeting. The centrepiece of the Ore Systems in Precambrian Terranes focus is a long-term research initiative directed at providing a new understanding of the Sudbury structure and its ore deposits. This research project is funded by the Centre for Excellence in Mining Innovation, Industry partners, and the National Science and Engineering Research Council of Canada. It involves nine faculty, 1 PhD and 4 graduate students from the DES including Dr. Richard Smith, the new Chair in Exploration Geophysics, and collaborators from industry and academia. The project benefits from state-of-the-art instrumentation and analytical techniques that are available within MERC, DES and the Ontario Geoscience Laboratories. Other research initiatives within the area of focus include on-going research directed at the base-and precious-metal metallogeny of the Trans Hudson Orogeny and the Abitibi Greenstone Belt. The research initiatives are designed to not only provide a new understanding of ore forming and concentration processes but to discover and develop new geological, geochemical and geophysical techniques for targeting deposits under cover. Education and training remains a priority and MERC will

## MERC news and update continued...

continue to take the leadership role in the expansion of an intra-Ontario University collaborative graduate curriculum in ore deposits and exploration, as well as developing new workshops and courses designed specifically for upgrading the skills of professional geologists and students. MERC will also seek funding to establish a Chair in Surficial Exploration Geochemistry that will fill a void in Canada's exploration research capabilities and in the teaching of surficial exploration geochemistry within the Canadian University system. For more information on MERC's research and education initiatives and activities please visit the website:

[www.merc.laurentian.ca](http://www.merc.laurentian.ca)

## Alumni update

### David Beilhartz, Hon.Bsc. Geol (1985), P.Geo.

After graduation David was employed in the exploration department for INCO for nearly 6 years during the Casa Berardi Gold discoveries and then in Thompson Manitoba. Since that time he has been involved with numerous junior mining companies conducting and supervising exploration activities for gold, nickel-copper-PGE's and base metals. During this period he has been associated with the discovery, definition and development of two significant gold deposits. Between 1997 and 2002 he served as Chief Geologist for Holmer Gold Mines was credited with the discovery and definition of the Timmins West gold deposit currently under development by Lakeshore Gold Corp. More recently David served as Vice President of Exploration for Lakeshore Gold Corp and was involved in the discovery of the Thunder Creek deposit currently being forwarded into the advanced exploration stage by Lakeshore Gold. David is currently Vice President of Exploration for Trelawney Mining and Exploration with projects in the Gogama and Massey areas of Northern Ontario as well as the president of a private exploration and consulting company with exploration properties in Northern Ontario.

### Christine Devine, M.Sc. (2004)

After graduation Christine was employed as a project geologist with Hudson Bay Exploration and Development Co. Ltd in Flin Flon, Manitoba. She is responsible for surface and underground mapping, organizing drill programs and logging core from drill holes located across the Flin Flon Greenstone Belt. She is currently exploring for new VMS deposits in and around the Flin Flon area in hopes of finding the next big discovery! She also participated in the LU organized field trip to Hawaii, which was led by Dr. Harold Gibson. "This was the highlight of my geological career...walking on very recent lava and seeing rocks forming in front of my eyes!" says Christine.

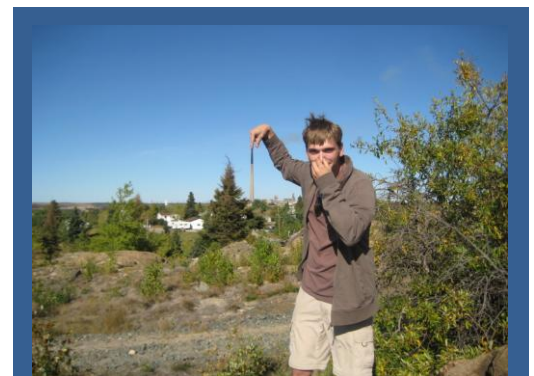
### Johnathan Cirelli, Hon. B.Sc. (2007)

After graduation John was employed with Xstrata Nickel at the Nickel Rim South Project working on the feasibility study to transition the project into a producing mine. He was responsible for underground structural mapping, core logging, computer modeling of the rock units and ore zones, forecasting future production and drilling and the development and implementation of an underground 3-d camera imaging system. Once the project was transitioned into production He started working for Queenston Mining in Kirkland Lake, Ontario where he was initially involved with core logging and planning for the 43-101 resource estimate of the McBean deposit which was released in December. John is currently a project geologist with Queenston running a drill program approximately 25km east of Kirkland Lake.

## Experiences at Laurentian University: Robert Lodge, Ph.D. Candidate

How did this Newfoundlander make it all the way to Laurentian University? No, this isn't the start of a cruel newfie joke! It was only 3 years ago when I was a self-proclaimed physical volcanologist completing my M.Sc. at the University of Western Ontario with no interest in economic geology or ever going into the industry. Irrational maybe, maybe a dash of ignorance, but for some reason I was being unreasonably stubborn. My M.Sc. project was looking at lava-ice contacts in the Cascades on the west coast, so with all the breath-taking scenery and active volcanoes around, why would I want to do anything else? The older the rocks, the less interesting the landforms, right? But then, when my efforts to get directly into a purely academic Ph.D. after graduation fell through because of a funding hiccup, I discovered the wonderful "real world". I got a job in central Newfoundland with a junior exploration company looking for VMS deposits and it was a fantastic experience. Sure I had to spend most of my summer in the woods with a few hard-workin' newfies and countless moose, but most importantly was that I discovered a field of geology where my die-hard

love for physical volcanology and new-found love for money (er... economic geology) can exist together in harmony. After 2 years of treasure hunting in the deep woods of Newfoundland and a crash in the global economy, I was finally ready to come back to school and follow my dreams of becoming a Ph.D. but now I was warmed up to the idea that



Enjoying the air quality in Flin Flon ,Mb during a field trip in the fall of 2009.

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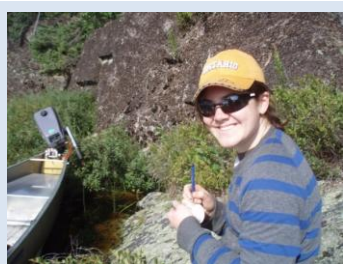
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If you have an item of interest, or any news of your activities (or those of your classmates), please let us know. Email submissions to [deswm@laurentian.ca](mailto:deswm@laurentian.ca)



Kathleen mapping near Ignace, ON while working with the OGS in 2009.

## Experiences at Laurentian University continued...

old, metal-rich volcanic rocks are fun to study too. My project is "The volcanology and VMS-metallogeny of the Shebandowan greenstone belt, northwestern Ontario". This is a fantastic project that is partially funded by the Ontario Geological Survey. I'll be looking at several VMS-deposits and prospects along the belt in an effort to understand the volcanological, stratigraphic, and tectonic controls on the mineralization and potentially outline new exploration targets for companies in the area. My industry experience helped me out tremendously with gathering information on these deposits, but one thing I was missing was the academic side of economic geology. Not to mention that the rocks in my field area are over 2 billion (!) years older than any other rock I ever looked at. I was very impressed by just how knowledgeable the professors were here in everything related to economic geology.

Overall, my experience at Laurentian so far has been great. Sudbury has been great too! I saw my first smelter, smoke stack, and slag rock. I didn't have a clue what that rusty, vesiculated, waste rock was and it blew my mind when I found out! It's been mostly TA-ing and literature reviews so far. There is a buzz amongst the OGS and private sector regarding my project before it has even really started and this has been giving me an extra push to make something special of this Ph.D. I am looking forward to the next few years to see where things go.

**Robert Lodge, Ph.D. candidate**  
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## Experiences at Laurentian University: Kathleen McDonald, B.Sc. Candidate

Over the past two and a half years at Laurentian, I have had great experiences in the classroom, working for industry and for the provincial government. I have particularly enjoyed the small class sizes and friendly atmosphere at LU. My summer experiences included working as a geological assistant for Vale INCO and, with the support of the DES/MERC co-op program; I gained mapping experience while working for the Ontario Geological Survey. The co-op program has also exposed me to great workshops, such as the technical writing workshop this past fall. The hands-on experience that I have gained through my courses and summer jobs, as well as the tremendous personal support I am receiving from Laurentian professors have strengthened my knowledge in geology and has made me feel like I am headed towards a fulfilling career in a field that I really dig!

**Kathleen McDonald, B.Sc. Candidate**  
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## A Field Guide to the Geology of Sudbury, Ontario

The Ontario Geological Survey recently published Open File Report 6243, entitled "A Field Guide to the Geology of Sudbury, Ontario". The report was edited by our very own Dr. Don Rousell (DES) along with G. Heather Brown (MNDMF). Parts of the publication were also written by Dr. Richard James (DES) and Dr. Darrel Long (DES). This field guide contains a comprehensive understanding of the geology of Sudbury aimed at those who have a general interest in geology. The guide is divided into two parts. The first part is an overview of Sudbury geology and the second part represents a self-guided field trip. It includes 50 geological stops located within and around the Sudbury area. Each stop includes driving directions (with GPS coordinates), a geological description, and color photographs.

"For over one hundred years, Sudbury has been a destination for practicing geologists, especially those in the mineral industry, as well as students, academics and scientists interested in meteorite impact craters. The Apollo astronauts visited Sudbury in 1971. Numerous field guides have been prepared over the years but they tend to be for specialists and are soon out-of-print. We have prepared a comprehensive field guide, directed toward the general geologist and student, which covers all aspects of the bedrock geology and mineral deposits of the Sudbury area" writes Dr. Rousell in the preface of the guide.

*Put your heart, mind, intellect and soul even to your smallest acts.  
This is the secret of success. Swami Sivananda*



Don and Catharine Rousell at the "authors and sponsors" appreciation night, January, 2010