

LAKEHEAD  
*Lakehead University Geology Department*  
*Alumni Newsletter #5*  
 GEOLOGY

*April, 2013*

March was a big month for the Department with the announcement at the PDAC alumni breakfast that the new Centre of Excellence for Sustainable Mining and Exploration (CESME) was up and running. With over 100 alumni and friends in attendance at the Royal York, Dr Brian Stevenson, Lakehead's President, announced that Dr Peter Hollings would be the Founding Director of CESME and would be building a research team to address the three pillars of the Centre:

- Mineral Exploration and Mining
- Environmental Impact
- Engagement with First Nation, Métis and local communities



*A packed house greets the announcement of CESME*

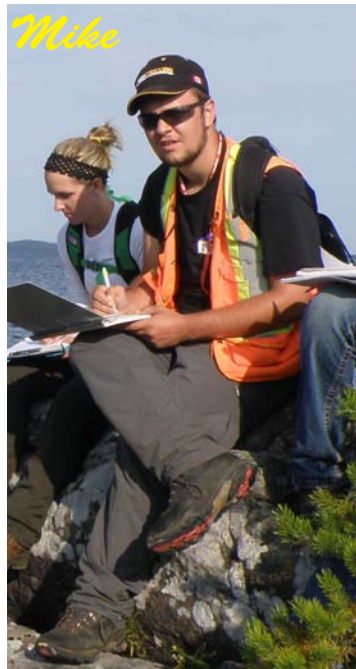
CESME will encourage and support research, education and outreach activities regarding the nature and impacts of mineral resource exploration and extraction particularly in Northern Ontario (please visit the [cesme.lakeheadu.ca](http://cesme.lakeheadu.ca) to learn more). Over the next few months we will be reaching out to our alumni to seek your guidance as to the research questions that CESME needs to address,

but if you have any suggestions then please contact Pete ([peter.hollings@lakeheadu.ca](mailto:peter.hollings@lakeheadu.ca)).



*Dr. Hollings introduces the Centre*

### *Student success*



**E**mily Smyk and Michael D'Angelo were both recently awarded one of the inaugural SEG Canada Foundation \$1,000 scholarships intended to support field or laboratory work related to their Honours thesis. As only ten awards were to be given out this year, this is a huge achievement! Mike is working on a study of Panoramic's Steeplegde Ni-Cu-PGE hosting intrusion north of Thunder Bay, whereas Emily has been working on a package of metavolcanic and metasedimentary rocks in the vicinity of Goldcorp's Musselwhite Au mine. Both students worked on their projects as part of their summer jobs last year and have received considerable support from the companies.

Emily has also received a \$10,000 Graduate Student Fellowship from the Society of Economic Geologists Foundation. The award is sponsored by Gold Fields Exploration Inc., through Dr. Rael D. Lipson – Chief Geologist, and will be used to support Emily's MSc which will be investigating the alteration systems around copper porphyry deposits.



### *Summer Jobs*

**W**ith many companies scaling back on their exploration programs this summer some of our excellent students are still looking for summer jobs. So if you are thinking about hiring for the summer please consider Lakehead first.

*Please contact [peter.hollings@lakeheadu.ca](mailto:peter.hollings@lakeheadu.ca) if you have a story to share*



Yongjun Lu, Katarina Bjorkman and Cam McCuaig

## Collaborations

The Geology Department has just initiated a new collaboration with the Centre for Exploration Targeting at the University of Western Australia. Recent studies in the Yilgarn Craton of Western Australia have demonstrated that multi-isotopic maps are a powerful tool for mapping crustal growth and imaging lithospheric blocks of different age that are interpreted as paleocraton margins. Such maps are based on in-situ zircon U-Pb and Lu-Hf analyses combined with whole-rock Sm-Nd data. These studies pointed to a strong spatial correlation between lithospheric boundaries and the location of large concentrations of multiple styles of mineral deposits. However, the only available case study in the Archean is the Yil-

garn of WA, and even that is only focused on the central portion of the craton. Lakehead and CET will be collaborating on a comparative study in the Wabigoon Subprovince. Katarina Bjorkman (*Class of '11*) is just starting a PhD at CET and will be using multi-isotopic (U-Pb, Lu-Hf, O) analyses of zircon to map the lithospheric architecture in time and space to generate mappable exploration criteria for targeting various mineral systems at the craton to terrane scale. The study will build on research started last year by CET Postdoctoral Fellow, Yongjun Lu, who spent a couple of weeks last summer sampling in the Wabigoon with help from Lakehead and the OGS. The project is funded by the Australia Research Council Centre of Excellence for Core to Crust Fluid Systems (CCFS) and is a collaboration with the Ontario Geological Survey.

As a part of this collaboration Dr. Pete Hollings is looking to recruit a student to investigate the isotopic systematics of zircons from granites along a transect from Pickle Lake to Musselwhite mine, crossing over the southern boundary of the North Caribou Terrane. This project will be starting this summer so as to coordinate field work with the CET researchers and is funded by an NSERC Discovery Grant to Pete.



Mark Smyk & Pete Hollings sampling with Yongjun



## Support

With CESME little more than an hour old, Wally Rayner, who started his geology career at Lakehead, had approached us about supporting the Centre. This conversation led to a \$20,000 gift to be used to support the activities of the Centre. To quote Wally "I believe that the Center of Excellence for Sustainable Mining and Exploration will provide a platform for innovation and collaboration amongst community, industry and Lakehead University. Funding from individuals such as myself as well as industry is essential to the success of the Center". With help from supporters like Wally CESME is well on its way to making a difference in Northern Ontario.



CENTRE OF EXCELLENCE FOR  
SUSTAINABLE MINING  
& EXPLORATION

Want to know more? Please visit our web site at [www.geology.lakeheadu.ca](http://www.geology.lakeheadu.ca)