



## Four U of S Physics Students in “Beamteam” Research Group Awarded Major Federal Scholarships

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Four University of Saskatchewan PhD students working together on materials science projects at the Canadian Light Source (CLS) have been awarded a total of \$252,000 in scholarships—part of \$1.08 million in federal scholarship funding for U of S students announced today in Montreal.

It’s a source of pride for professors to see even one of their students receive such prestigious scholarships, says the students’ supervisor and Canada Research Chair Alexander Moewes. “But it is unbelievable to see four of my students get it at the same time.”

He said the scholarships awarded to John McLeod, Robert Green, Teak Boyko, and Adrian Hunt testify to the “outstanding quality of these students on a national level.” He noted that the value of his students’ work is integral to his own success, adding “I can only be as successful as my graduate students.”

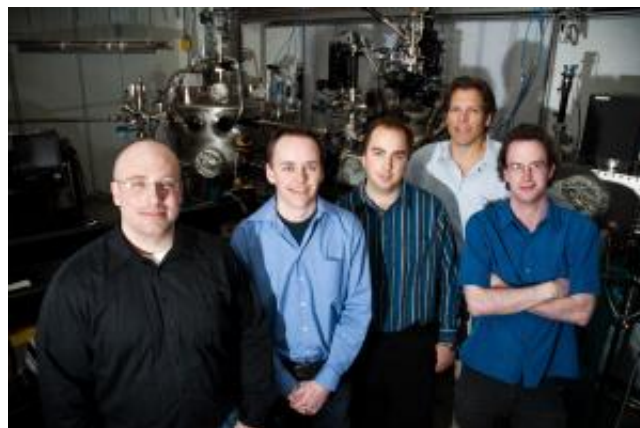
The four, who will each receive \$63,000 over three years, are among 36 students currently at the U of S who will receive post-graduate (master’s or PhD) scholarships from the Natural Sciences and Engineering Research Council (NSERC). The scholarships can be applied to the U of S or to other institutions.

“This year 80 per cent of the 45 students that we were entitled to put forward through a federal quota system for scholarships were successful in this national competition,” said Lawrence Martz, U of S dean of graduate studies. “This is a reflection of the high-calibre students that U of S trains and it bodes well for the prospects of our graduates in research and professional careers.”

He noted U of S students received two of the 24 scholarships awarded nationally for the prestigious Juliette Payette-NSERC Research Scholarship which goes to the most outstanding master’s applicants across Canada. Biology student Lauren Bortolotti and chemistry student Michael Gaultois will each receive \$25,000 for one year.

The four physics PhD students are part of Moewes’ eight-member “beamteam” – a materials research group which specializes in studying the electronic structure of new and advanced materials using synchrotron light to understand their properties and how they interact, bond and behave. The beamteam publishes 12 to 15 scholarly papers on their findings per year.

The group currently travels back and forth between the CLS on the U of S campus and a synchrotron at Berkeley, California, but will shift its research exclusively to the CLS when Moewes’ beamline becomes operational this year.



*From left to right: Adrian Hunt, Robert Green, Teak Boyko, Alexander Moewes and John McLeod at the CLS*

Not only will the NSERC funding enable them to continue their research, but it will make it possible for them to attend conferences where they can present their results and learn about new developments in the field, said Green, adding “We are trying to discover important things about nature that nobody knows yet.”

The four student projects are:

- McLeod, recruited from the University of Toronto, will work with “spintronics,” technology that exploits the natural spin and magnetism of the atomic electron and can be applied to making extremely small materials, known as nanomaterials, for constructing computer components with improved storage space.
- Green, also specializing in spintronics, will study how traditional, non-magnetic semiconductors can be given magnetic atoms to create new properties.
- Boyko will work on ultra-hard materials, compounds being developed to be harder than diamonds for manufacture of advanced blades and tools.
- Hunt will work on graphene, an extremely thin layer of graphite with very different conducting and light-absorbing properties than graphite normally has. This material holds promise for new nano-electronic applications. He is also working on environmentally friendly solar-cell materials.

To learn more about work being done by the U of S beamteam, visit <http://beamteam.usask.ca/index.php> Watch "Hard Driving Science," a U of S video that looks at Moewes' work at the CLS: <http://www.usask.ca/research/communications/multimedia/videos.php>

For a complete list of U of S and other scholarship winners from the \$122-million national NSERC scholarship announcement, visit: [http://www.nserc-crsng.gc.ca/Students-Etudiants/PD-NP/PDF-BP\\_eng.asp](http://www.nserc-crsng.gc.ca/Students-Etudiants/PD-NP/PDF-BP_eng.asp) and [http://www.nserc-crsng.gc.ca/Students-Etudiants/PG-CS/BellandPostgrad-BelletSuperieures\\_eng.asp](http://www.nserc-crsng.gc.ca/Students-Etudiants/PG-CS/BellandPostgrad-BelletSuperieures_eng.asp)

Also announced today were 56 U of S researcher grants totalling more than \$1.7 million under the NSERC Discovery Grant program. Details are available at: [http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DGIGP-PSIGP\\_eng.asp](http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DGIGP-PSIGP_eng.asp)

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For more information or to request a photo of the beamteam, contact:

Kathryn Warden  
U of S Research Communications  
(306) 966-2506

Penny Skilnik  
College of Graduate Studies and Research  
(306) 966-8490

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