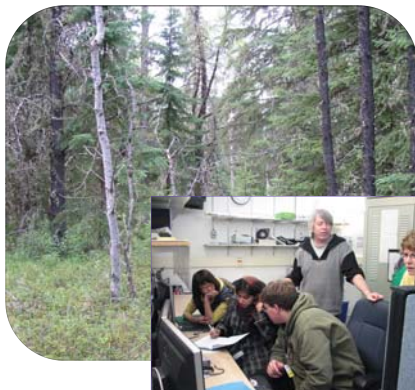


# Students On the Beamline

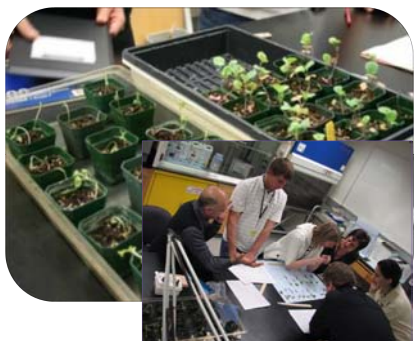
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## Acid Rain Effects Depend on Soil Layers

Currently, environmental studies on soil are conducted based on bulk samples, but this method may need to be re-examined. Students from Centennial Collegiate Institute in Saskatoon used the CLS to analyse the effects of nitric acid treatment on Saskatchewan boreal forest soil. A soil sample was collected from Keely Lake in Northern Saskatchewan and the students' results suggest that the effects of nitric acid are dependent upon the layer of soil being studied. These students will be continuing their research using soil from several Saskatchewan locations. 🌸

www.lightsource.ca/education/schools/2009\_centennial\_collegiate.php



## Plant Damage Caused by UV Light

Students from Avonlea School used the CLS to examine damage to plant cells caused by ultraviolet (UV) light. The ultraviolet light exposure was found to cause stunted growth and/or curled leaves, different epidermal cell shape, as well as chemical differences within individual cells. It was also found that unexposed cactus already had the band of calcium oxalate that was found only in the vanilla plant exposed to UV light, possibly indicating that when plants are exposed to UV light for long periods of time, they try to build up a tolerance by producing calcium oxalate. 🌸

www.lightsource.ca/education/schools/2009\_avonlea\_school.php



## Fingerprints to Test For Diabetes

Using the MidIR beamline, four grade 12 students from Notre Dame High School in Calgary collaborated with TELUS World of Science to conduct research aimed at discovering if there is a quicker and easier way to test for the presence of diabetes than through the use of a blood test. The students analysed the chemical compounds from fingerprints in order to see if individuals with diabetes have specific chemical compounds in greater (or lesser) concentrations than people without diabetes. 🌸

www.lightsource.ca/education/schools/2010\_notre\_dame\_TELUS.php



## Ground Water Contamination

Overflow ice is created when water wells up from underground and then freezes on top of creek ice in Northern Canada. Using the SGM beamline, three students from the Bosworth Creek area of the Northwest Territories conducted research focused on the chemicals found in a particular type of overflow ice which is new to the area and may be a result of permafrost. It is different in colour and contains potentially toxic elements that are not found in normal overflow ice. The students' results point to a need for further research and they are contemplating collaborating with government officials to continue the investigations. 🌸

www.lightsource.ca/education/schools/2010\_bosworth\_creek\_project.php

