

Clayton H. Riddell

Faculty of Environment, Earth, and Resources

NEWSLETTER

Volume 1 | Number 1 | March, 2009

Our first newsletter is finally here.

This first issue of our newsletter uses the branding and communications strategy developed for the Riddell Faculty. The fairly lengthy process of creating our brand identity began in the Spring of 2008 following the hiring of McKim Cringan George, a Winnipeg-based advertising agency. McKim's approach included the development of a written brand story and positioning document to establish communications strategies that convey a cohesive look for the Faculty while also representing its diverse interests.

Peter George (President, Managing Partner, McKim Cringan George) states "There were unique challenges inherent in creating a brand for the Faculty - it had to live within the existing University of Manitoba brand to ensure we were capitalizing on the larger institution's credibility and awareness; and it needed to be equitably representative of the various faculty facets. For the University of Manitoba's Clayton H. Riddell Faculty of Environment, Earth, and Resources, this approach was particularly crucial because the faculty itself is a fairly new collaboration.)"

The challenge lay in the need to create a visual impression that could be applied to items, communications, and displays and that conveys the unique, integrated, and interdisciplinary nature of the Faculty.

The resulting Faculty identity centres upon five graphic elements (human profile, crystal, leaf, clouds, and water) that you will see throughout this newsletter and that can be combined to convey the many interests in the Faculty. Colours are guided by the University of Manitoba's colour palette, and photography includes images from students and faculty as well as professional images by Ian McCausland, a Winnipeg photographer. Following the development of a Faculty identity it was applied to a number of items including a faculty brochure, an 8' by 10' promotional display, presentation folder, factsheet and poster templates, and the newsletter template, and will be applied to other items in the future.



ONE planet
MANY perspectives



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OF MANITOBA

IN THIS ISSUE

Research Initiatives
Find out about some of the research projects being undertaken in the Faculty

Recognition and Awards
Hear about our recognized faculty and students

Our Students
Read about our students activities and achievements

"CFI investment will further develop the University of Manitoba's global reputation as a place where outstanding research and training is being conducted."

– Eliot
Phillipson, President
and CEO of the
Canadian Foundation
for Innovation (CFI)

In the News

Many of our faculty and students are called upon to explain complex issues, debate current affairs, and describe their work and research to the news media. This is an important role for the Faculty, and provides the public with valuable information and insight.

Dr. Vaclav Smil

(Distinguished Professor, Department of Environment and Geography) was one of four experts interviewed in a New York Times feature (November 5, 2008). The article posed questions relating to the energy priorities and pitfalls facing the new US administration, and explores the possible shifts in energy policy under Barack Obama's presidency. Dr. Smil prompted significant comment in the Times' message board through his direct and incisive comments such as "There will be precious little of any rapid change as energy systems are inherently inertial and as energy transitions take decades to accomplish".

Dr. Smil was more recently featured on the same topic in the Globe and Mail (January 9, 2009). Dubbed by the Globe and Mail as a prolific environmental thinker as author of over 25 books. In fact, Dr. Smil had no less than 4 books published in 2008 alone.

Dr. David Barber

(Professor, Department of Environment and Geography, Canada Research Chair in Arctic Systems Science, and Director of the Centre for Earth Observation Science) continues to be featured regularly in news media regarding climate change and the Arctic. Commenting in the Winnipeg Free Press (February 21, 2009) he noted that the growth in Arctic ice in 2008 may have seemed like a reprieve from the devastating melt of 2007 but that it was mostly thin, first-year ice which is more likely to melt in the summer. These and other findings resulting from the International Polar Year were presented in Geneva in late February 2009 and were also reported by the CBC and Can West News Service.

Dr. Shirley Thompson

(Assistant Professor, Natural Resources Institute) was featured in the Ottawa Citizen (December 25, 2008) commenting on the subject of e-waste. The disposal of old electronics is "a growing problem. These items contain toxic metals and other chemicals and often they are ending up in landfills" stated Dr. Thompson.

Dr. Emdad Haque

(Professor and Director of the Natural Resources Institute) was featured in UniWorld, a publication of the Association of Universities and College of Canada that is "dedicated to enhancing the visibility of the University Partnerships in Cooperation and Development programs" (March, 2009). The CIDA-funded project led by Dr. Haque, is a broad-based initiative "to build environmental governance capacity and ultimately reduce poverty" in the region of their partner North South University in Bangladesh. The project also encompasses an assessment of human resources in environmental management and governance throughout Bangladesh, including particular reference to gender issues. In particular, workshops and manuals have been developed to "green" micro-credit in order to assist women developing their own businesses.

The Clayton H. Riddell Faculty of Environment, Earth, and Resources was included in the special issue of the journal "Alternatives", focusing on "Education for the Planet" (Volume 34, Number 6, 2008). As well as describing our undergraduate and graduate programs in environmental science and studies and resources, there were a number of positive testimonials from some of our students.



Message from the Dean

Dr. Norman Halden

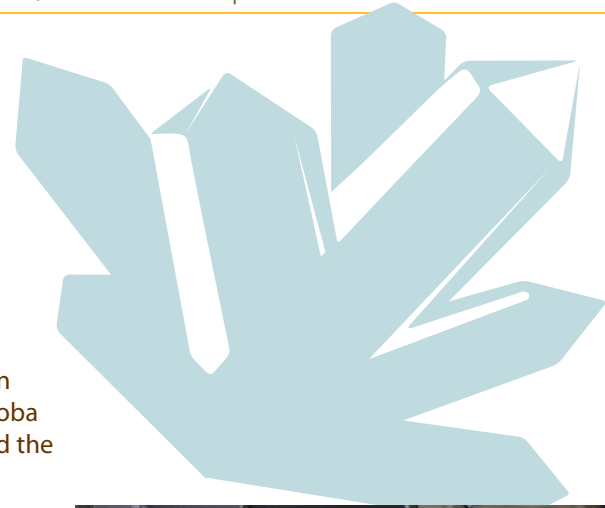
This newsletter is a quick snapshot of the multitude of things that are on going in the faculty. Over the next few newsletters we hope to highlight many more projects as well as the achievements of our students and colleagues. The faculty is finding its stride within the larger University community and is playing a leading role in the development of many new initiatives. Changes in the Arctic influence, and will continue to influence our activities for some time. However, more generally and more recently “the north” has figured in our thinking as well. “The north” means different things to different people and while there is a fair amount of formal literature on this topic (usually including something about permafrost), to some here in Winnipeg it can still be as nearby as north of the perimeter highway. If you live in Ashern, Dauphin, Thompson, Split Lake or Gillam it has a very different meaning - it is home.

Working and living in the north presents some unique experiences and challenges and I have no doubt that as climate change proceeds, any northern development strategy will have to be agile to be sustainable and we need to play our part. Those of us in “the south” accrue significant benefit from northern resources so we have some obligation to understand the pressures that affect northern communities and do what we can to bring our expertise to bear. This

is entirely consistent with the mission and vision of the University of Manitoba (with the emphasis on Manitoba) and the Faculty.

To this end I was in Flin Flon in February and have another more extensive trip planned in March in the company of the Northern Manitoba Sector Council. The Northern Manitoba Sector Council was formed in 2007 as a not-for-profit corporation whose purpose “is to focus on and resolve regional and community-based skill development issues to enable northern Manitoba to grow and prosper economically”. Our collective expertise in the Faculty, spanning minerals, water quality, ecology, regional development and resource evaluation (to name but a few areas) has much to offer this new venture.

As I went through airport security at Winnipeg with my boarding pass to Flin Flon in February, I had to take some ribbing from the colorfully clad Hawaii- and Caribbean-bound passengers in the good-natured way it was intended. But I’m used to it. In England, north is generally regarded to be “north of Watford Junction” on the outskirts of London. Actually the real North was where the Romans built Hadrian’s Wall to keep my ancestors from raiding English cattle! It is a matter of geography AND perspective.



Faculty Snapshot

31 tenured faculty members, 11 probationary appointments, and one term position, as well as a number of sessional instructors and teaching assistants;
20 office support staff and an additional 13 technical support positions;
398 undergraduate and 205 graduate students enrolled

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Conservation and Resources

Research on the Prairies

Dr. Nicola Koper's (Assistant Professor, Natural Resources Institute) primary research focuses on the conservation of prairie birds and their ecosystems. Prairies have been highly altered through habitat fragmentation and the removal of natural sources of disturbance. Dr. Koper collaborates with numerous graduate students to study effects of grassland fragmentation, grazing by cattle, and fire on prairie ecosystems, particularly songbirds.

Chris De Ruyck, who is working with Dr. Koper is studying the diminutive, but surprisingly numerous northern saw-whet owl (*Aegolius acadicus*) in Manitoba.



Despite their abundance, very little is known about saw-whet owl distribution or population trends in the prairie provinces as they primarily breed in the boreal forest, north of most bird survey routes and human settlements.

Chris is analyzing long term saw-whet owl migration monitoring data gathered by the Delta Marsh Bird Observatory, Manitoba and is also using state of the art stable isotope analysis techniques to learn the geographic origins of saw-whets that migrate through Delta Marsh each fall.

FAST FACTS:
The Saw Whet Owl is so called as it makes a sound like a saw being whetted (or sharpened) when alarmed

Jennifer Lusk (pictured here) is also working closely with Dr.

Koper to better understand the role of vegetation and cattle grazing on songbird nesting success in grazed and ungrazed native mixed-grass prairie in Saskatchewan. Prairie songbirds have been experiencing long-

term population declines but little is known about factors influencing nesting success. Jennifer found that there were no effects of low-moderate intensity grazing on Sprague's pipit, Baird's sparrow, vesper sparrow, lark

bunting, and chestnut-collared longspur nesting success. This indicates that low-moderate intensity grazing may be compatible with management for these species.



Protecting Aquatic Plants

Dr. Mark Hanson (Assistant Professor, Department of Environment and Geography) is developing and validating approaches to ensure that aquatic plants are not impacted adversely by plant protection products, most importantly herbicides, in freshwater ecosystems.

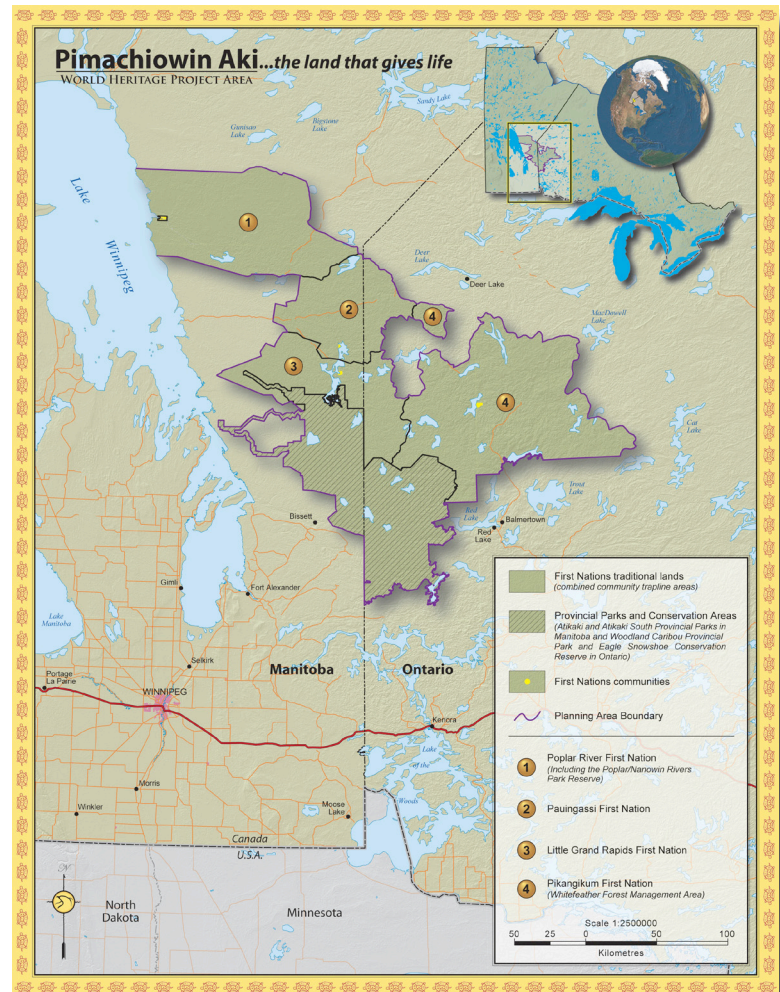
Aquatic plants play vital, yet often overlooked, roles in many freshwater ecosystems. When they are in abundance they can help inhibit algal blooms, stabilize sediments, and provide food and shelter to numerous organisms, including many of the sports fish we cherish. They are analogous to the trees in our forests, and are equally deserving of protection. Dr. Hanson assesses the impacts of chemical stressors on these organisms in an ecological context, primarily through the use of model pond systems called microcosms. In recognition of this expertise, he was invited to the Netherlands January

14th-16th 2008 to give a keynote address on field assessment techniques for effects on aquatic plants at the Aquatic Macrophyte Risk Assessment for Pesticides Workshop in Wageningen. This meeting brought scientists together from all over the world who are active in trying to reduce the risk posed to plants by pesticides, with Dr. Hanson being the only Canadian representative. His address was on the critical evaluation of semi-field studies in the use of characterizing toxicity to plants. Outcomes of this meeting include ongoing efforts by Dr. Hanson and his colleagues to address statistical issues around plant data in risk assessment and the development of new testing strategies for the laboratory that will involve his graduate students validating a series of proposed approaches. It would seem that aquatic plants get the attention they now deserve and the Faculty is playing a global role in directing that protection!



Boreal Forest World Heritage Site

Researchers **Iain Davidson-Hunt** (Assistant Professor, Natural Resources Institute) and Virginia Petch (President of Northern Lights Heritage Services) are leading research to contribute to the development of a World Heritage Site in the boreal forest. The research will begin with an overview of other current World Heritage Sites designated as cultural landscapes and will also include the compilation of information from First Nations land use plans. The development of the site is driven by the Pimachiowin Aki Corporation that is led by members from the Pikangikum First Nations in Ontario, Pauingassi, Little Grand Rapids, and Poplar River First Nations in Manitoba, and the Manitoba and Ontario provincial governments. Graduate students Catie Burlando, Carlos Idrobo and Christin Didora will also participate in the research that will contribute to documents that will ultimately be submitted to the World Heritage Committee. The research project, taking around one year, "will show that the boreal forest is outstanding not only for its natural assets but also for its cultural importance to the world" stated Sophia Rabliauskas, spokesperson for the Pimachiowin Aki Corporation pictured below.



International Polar Year Circumpolar Flaw Lead Study

Dr. David Barber (Professor, Department of Environment and Geography, Canada Research Chair in Arctic Systems Science, and Director of the Centre for Earth Observation Science) leads the Circumpolar Flaw Lead (CFL) system study (2007-2011). This is a \$40M Canadian-led International Polar Year (IPY) initiative with over 350 participants from 28 countries. The study is multidisciplinary in nature, integrating the physical sciences, biological sciences, and traditional knowledge. The study is designed to examine the importance of climate processes in the changing nature of a flaw lead system in the high Arctic and the effect these changes will have on the marine ecosystem, contaminant transport, carbon flux and greenhouse gases. The circumpolar flaw lead is a perennial characteristic of the Arctic, which forms when the central pack ice (which is mobile) moves away from coastal fast ice, opening a flaw lead, which occurs throughout the winter season. The flaw lead is circumpolar in nature, with recurrent and interconnected polynyas occurring in the Norwegian, Icelandic,

North American and Siberian sectors of the circumpolar arctic. Due to a reduced ice cover, these regions are exceedingly sensitive to physical forcings from both the atmosphere and ocean and provide a unique laboratory from which we can gain insights into the changing polar marine ecosystem. The CFL study was 293 days in duration and involved the overwintering of the CCGS Amundsen icebreaker (pictured here) in the Cape Bathurst flaw lead throughout the winter of 2007-2008 representing the first time an icebreaker has overwintered an entire winter in the Arctic while remaining mobile in a flaw lead. The project is the largest IPY project in Canada and the world.



International Development Research Chair

Dr Fikret Berkes, Canada Research Chair in Community-Based Resource Management, is the co-chair of a newly established International Development Research Chair (IDRC) in Community-Based Resource Management. The partnership is one of only eight announced by the International Development Research Centre and the Canada Research Chairs Program.

The new program, launched in December 2007, received 104 applications for joint research between Canada Research Chairs and their counterparts at universities in the developing world. From that, after a rigorous peer-review process, eight teams were selected to receive up to \$1 million each over five years, to address a key development challenge.

Dr. Berkes has been partnered with Dr. Alpina Begossi at State University of Campinas Brazil. Together they will develop community-based adaptive management (a feedback system for learning-by-doing) to increase food security and improve livelihoods of fisher communities in Paraty (Rio de Janeiro State).

They will begin by developing a knowledge base of the area's ecology, drawing on local people's knowledge of their resources. Working with communities, the researchers will launch a system for managing livelihood resources that could serve as a model for other parts of Brazil and elsewhere. By doing this the team hopes to incorporate local groups into the management process, and to build local capacity to engage stakeholders in governance processes.

"Dr. Berkes is an outstanding scientist and I am pleased that he has partnered with Dr. Begossi to establish the IDRC-CRC at the university. The university congratulates both on their significant achievement and looks forward to welcoming Dr. Begossi to our campus as a holder of this prestigious chair," says Digvir Jayas, acting vice-president (research) at the University of Manitoba. "For years, Dr. Berkes has advanced our knowledge of how community-based management practices can sustain common resources like fisheries. This chair is a clear vote of confidence in the success of his research program and the importance of not only his work, but the need for collaborative, cross-border research in today's day and age."

Much of the budget is earmarked for training. In addition to identifying new avenues for knowledge, policy, and knowledge transfer, these partnerships will provide university students with unique training and fieldwork opportunities under the mentorship of the chairholders.

"The partnership between IDRC and the Canada Research Chairs

Program is a distinctly Canadian international initiative that brings the power of science and technology to bear on problems in the developing world, while creating unique research opportunities for Canadians," says IDRC President David Malone.

A public reception will be held on Friday April 17th at 11:00 am in the Cretaceous Menagerie in the Wallace Building to celebrate this important and innovative partnership.

"The partnership between IDRC and the Canada Research Chairs Program is a distinctly Canadian international initiative that brings the power of science and technology to bear on problems in the developing world, while creating unique research opportunities for Canadians"
David Malone, IDRC President

Learning in the Riddell Faculty

Close-up on Courses:

Northern Lifestyles and Winter Survival Workshop

Dr. Jill Oakes (Professor, Department of Environment and Geography) and Dr. Rick Riewe (Professor, Department of Biological Sciences) offered two workshops at the Delta Marsh Field Station in January to learn about northern lifestyles and winter survival techniques. The workshops are aimed at people whose occupations may take them to Arctic locations, winter camping enthusiasts, and teachers of outdoor survival skills. Drs. Oakes and Riewe have offered these workshops for many years in diverse locations and use field work, lectures, and films to cover a wide ranges of topics. Participants have the opportunity to build a Athabaskan Quinzhee, in which they have the option to sleep for one night of the course.

If you have taken or teach an innovative course or workshop, let us know. We plan to regularly showcase our unique and engaging learning opportunities.



Cooperative Education

There are currently about 35 students enrolled in the Coop program and 6 of these students were out on placements in the early months of 2009. Some of the jobs available to students include in the Federal Government working in Government Services, Foreign Affairs and International Trade, Environment Canada, and Indian and Northern Affairs Canada. Coop has been involved in organizing several events and providing professional networking opportunities throughout the year. For example, Coop sent 8 students to the Manitoba Environmental Industries Association Contaminated Sites Conference.



Loriena Bernier (B. Env. St Coop) involved in firearms safety training

An important aspect of Coop is the preparation and training of students to safely and effectively perform in their placements. One example of this training is the Natural Resources Enforcement Weekend Promotion and Training Session which encompasses Canadian Firearms Safety, Wilderness First Aid, and Injured Wildlife Rescue. This breadth of activity includes many partners; we are especially grateful to Manitoba Conservation for their volunteer time to provide the Canadian Firearms Safety Training to 15 or more of our students.

Aboriginal Issues Press

ON THIN ICE

a synthesis of the Canadian Arctic Shelf Exchange Study (CASES)



Chief Editors: Louis Fortier, David Barber and Josée Michaud

The Aboriginal Issues Press focuses on aboriginal, Northern, and other communities and their relationships with the environment and its management. The Aboriginal Issues Press has several new books. Facets of the Sacred: cross-cultural reflections explores both the dramatic and subtle implications of how sacredness is defined and experienced.

On Thin Ice: a synthesis of the Canadian Arctic Shelf Exchange Study (CASES), is a synopsis of the first truly inter-disciplinary integrated research program in the Canadian Arctic Ocean. This full colour celebration of cutting edge research is being distributed throughout the participating western Arctic communities.

Check out the Faculty web site for information on other publications. Staff and students are encouraged to submit research papers and book manuscripts for possible publication in this refereed press to aboriginal_issues_press@umanitoba.ca

Funding

Two researches in the Riddell Faculty received funding from the Canadian Foundation for Innovation (CFI) early in 2009. Dr. Feiyue Wang received \$390,000 for his project to establish the Sea-Ice Environment Research Facility (SERF), the first of its kind in Canada. The facility will allow for the fabrication and growth of sea-ice under controlled conditions that will enable research concerning the transport and transportation of trace metals and other materials through the ocean-sea-ice-atmosphere interfaces. This project includes co-investigators Dr. Tim Papakyriakou (Department of Environment and Geography) and Dr. David Barber (Department of Environment and Geography).

Dr. Nicola Koper received \$103,180 to establish two mobile research stations to study songbirds in Manitoba and Saskatchewan. Prairies birds are declining more rapidly than any other group in North America and Dr. Koper's research will investigate the relationship with land use, and develop initiatives to promote the conservation of prairie birds and their resources.

CFI is an independent corporation created by the Government

of Canada to fund research infrastructure. Since its creation in 1997, the CFI has committed 4.4 billion in support for 5,800 projects at 129 institutions. The CEO of CFI, Eliot Phillipson, present at the awards stated "CFI investment will further develop the University of Manitoba's global reputation as a place where outstanding research and training is being conducted".

Manitoba Research and Innovation Fund

Science, Technology, Energy and Mines Minister James Rondeau announced funding to support research projects on January 23. Dr. Andrey Bekker (Assistant Professor, Department of Geological Sciences) received \$267,308 to purchase a gas-source stable-isotope-ratio mass spectrometer and to provide infrastructure for further laboratory development. Dr. Feiyue Wang (Associate Professor, Department of Environment and Geography) received \$389,250 to contribute to the Sea-Ice Environment Research Facility (SERF). Dr. David Barber (Professor, Department of Environment and Geography) received \$125,000 to purchase an L-band scatterometer to support sea ice and Arctic climate change research.

Awards

Dr. Frank Hawthorne is the recipient of the 2008 Carnegie Mineralogical Award by the Carnegie Museum of Natural History. The award was presented by Dr. Samuel M. Taylor, Director of Carnegie Museum of Natural History, on February 14th at the 2009 Tucson Gem and Mineral Show.

The award honours outstanding contributions in mineralogical preservation, conservation and education that match the ideals advanced in the museum's Hillman Hall of Minerals and Gems. It is considered one of the most prestigious awards in the fields of mineralogy, lapidary art and geology. "Frank is the first Canadian to receive the award and only our second non-U.S. awardee, the late Miguel Romero of Mexico being the first," said Marc Wilson, head of the section of minerals at Carnegie Museum of Natural History.

Dr. Hawthorne is Canada Research Chair in Crystallography and Mineralogy and distinguished professor in geological sciences.

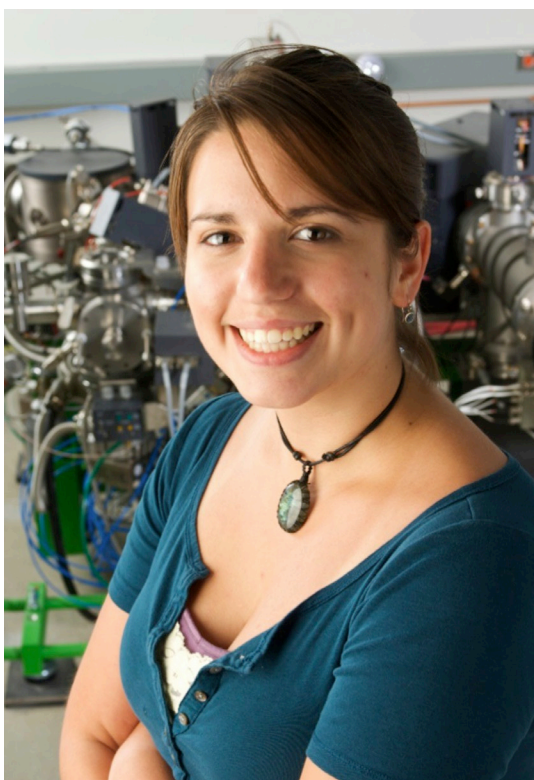
Jeff Young (Instructor, Department of Geological Sciences) was nominated for an Access Awareness Award. The awards, organized by Disability Services, honour faculty and staff who were nominated by students for outstanding service in providing access and accommodations for students with disabilities. The student nominating Jeff Young stated that all three professors she nominated "gave huge amounts of their time and much encouragement along the way.. and initiated and made special accommodations for [her]".

Prof. Wooil M. Moon (Senior Scholar in Geological Sciences) received the "Outstanding Service Award" on July 7th 2008 at the 28th International Geoscience and Remote Sensing Symposium, held in Boston. Prof. Moon also received the "Outstanding Achievement Award" from the Federation of Earth Science Societies of Korea at the Annual Meeting on October 23rd 2008.

The Western Inter-University Geoscience Conference (WIUGC) was hosted this year by the University of British Columbia (January 2009). Twenty-six students from the U of Manitoba Department of Geological Sciences attended.

David Toni (4th Year Honours Geophysics) claimed the Canadian Society of Exploration Geophysics (CSEG) award for best geophysical presentation, as well as the award for best overall presentation at the conference. David's talk was entitled "Investigating anisotropy in the upper mantle using shear wave splitting from the Manitoba teleseismic array".

Laura Bergen (fourth year undergraduate, Department of Geological Sciences, pictured here) was named the recipient of a Scotiabank Scotia Capital Markets Scholarship.



IN THE NEXT ISSUE

Would you like your stories to appear in the Fall 2009 edition of the Riddell Faculty Newsletter?

Submission Deadline:
Wednesday, September 9th, 2009

To:
Dr. Mary Benbow
440 Wallace building OR via email:
benbow@cc.umanitoba.ca

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IMPORTANT DATES

May

May 15

International Day of Families (2009 Theme: Mothers and Families: Challenges in a Changing World)

May 22

International Day for Biological Diversity (2009 Theme: Biodiversity and Invasive Alien Species)

June

June 5

World Environment Day (2009 Theme: Unite to Combat Climate Change)

June 17

World Day to Combat Desertification and Drought (2009 Theme: Conserving Land and Water = Securing Our Common Future)

July

July 11

World Population Day

Picturing the Planet

As a regular feature "**Picturing the Planet**" will bring inspiring and informative images, taken by our students and faculty, to reflect on the beauty and diversity of our world. If you have taken a picture that expresses the majesty and beauty of our planet, consider submitting it plus a few words for the next issues of the newsletter.



"Under The Stars" Joey Goertz

This image was taken by Joey Goertz who is currently working on a 3-year bachelors degree in Geography in the Riddell Faculty. It won second place in the World W.I.S.E. (Work, Internships, Study, Exchange) Centre Global Colours Photography Contest.

"This summer, I had the opportunity to travel to Clearwater, Manitoba through

a travel study program," he says," and I came back with a broader outlook on life. Clearwater, Manitoba doesn't sound every exotic yet one can still experience the uniqueness of the prairies. This picture is meant to not only represent the beauty of the prairies but also the cultures that thrive there before the colonization of North America".



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