Clayton H. Riddell

Faculty of Environment, Earth, and Resources

NEWSLETTER Volume 3 | Number1 | July, 2010

Canada Excellence Research Chair.

Introducing **Dr. Søren Rysgaard**, Canada Excellence Research Chair (CERC) in Arctic Geomicrobiology and Climate Change. Dr. Rysgaard's appointment was announced on May 17, 2010 as one of nineteen CERCs across Canada. He is professor and head of the Greenland Climate Research Centre at the Greenland Institute of Natural Resources. Dr. Rysgaard and his team will join the Centre for Earth Observation Science increasing its ranks to over one hundred people. He will study the geomicrobiological aspects of the Arctic in order to understand the implications for climate change, the global balance of carbon dioxide, and processes such as carbon sequestration.

Geomicrobiology looks at the interaction of microorganisms with minerals, sediments, water, and ice. Microorganisms inhabit these environments that might otherwise be assumed to be lifeless as they are often too harsh for other life forms to exist. The activities of microorganisms in these environments influence important chemical processes and therefore affect the environment, climate, and even the geology of the Earth. Details about the CERC announcement, resulting new facilities (including a fifth floor to be added to the Wallace Building), the Nellie Cournoyea Arctic Research Facility, and the sources of funding can be found in this issue of the Newsletter.

University of Manitoba

In the News.

Dr. James Teller (Geological Sciences) was featured in numerous news outlets following the publication of an article of which he is co-author in *Nature*. The research reveals a massive flood around 13,000 years ago from glacial Lake Agassiz into the Arctic Ocean and which subsequently led to the cold, post-glacial period known as the Younger Dryas. (Murton et al., *Identification of Younger Dryas outburst flood path from Lake Agassiz to the Arctic Ocean, Nature*, Vol. 464, April 1, 2010, pp. 740-743).

Alumnus **Dr. Lee Groat** (Ph.D. Geological Sciences, 1988) has had the honour of having a mineral named after him. Groatite is a new species of phosphate mineral and was found in samples collected from the Tanco pegmatite at Bernic Lake, Manitoba. The principal investigator that identified the mineral **Dr. Frank Hawthorne** (Canada Research Chair in Crystallography and Mineralogy, Geological Sciences) named the mineral after Groat who is now professor of Earth and Ocean Science at the University of British Columbia.

The Nellie Cournoyea Arctic Research Facility.

The fifth floor of the Wallace Building will be named for **Nellie Cournoyea**, an Officer of the Order of Canada and the first female leader of a Canadian territory. Ms. Cournoyea was premier of the Northwest Territories from 1991 to 1995, and previously represented the riding of Nunakput from 1979 to 1995. At the CERC funding announcement of May 17, 2010 Clayton H. Riddell described Cournoyea as "a great Canadian whose tireless efforts have and continue to benefit the North and its residents." Ms. Cournoyea is the Chair and Chief Executive Officer of Inuvialuit Regional Corporation (IRC). The corporation was established in 1985 with the mandate to receive the Inuvialuit lands and financial compensation resulting from the 1984 land claim. Today, IRC has assets in excess of $369 million. Ms. Cournoyea has received many awards including the Woman of the Year Award (NWT Women's Association), the National Aboriginal Achievement Award, and Honorary Doctorates in Law from Lakehead University, Carleton University, University of Toronto, University of Lethbridge, and University of Alberta. Pictured left, Ms. Nellie Cournoyea.

Funding of the CERC.

The Canada Excellence Research Chair (CERC) involves significant support from a variety of sources. The CERC itself receives $10 million over seven years from the Federal Government. In addition, the Province of Manitoba will also contribute $3.5 million under the Manitoba Research and Innovation Fund. A fifth storey will be added to the Wallace Building to accommodate specialized laboratories, classrooms, and other facilities. To build the new floor **Clayton H. Riddell** has provided a generous donation of $2.5 million. The floor will be named the **Nellie Cournoyea Arctic Research Facility**. Overall the CERC investment of $10 million will be leveraged over the same period with an additional investment of $25 million from the University of Manitoba and its partners. This total investment of $35 million will transform the University of Manitoba's sea ice research group into the world's most comprehensive and innovative climate change institution.

The CERC Announcement.

On May 17, 2010 it was announced that the University of Manitoba will receive a $10 million Canada Excellence Research Chair (CERC) in Arctic Geomicrobiology and Climate Change. The chair holder is **Dr. Søren Rysgaard**, professor and head of the Greenland Climate Research Centre at the Greenland Institute of Natural Resources. The CERC is one of only nineteen awarded across the country. The announcement was attended by Premier Greg Selinger, MP Rod Bruinooge, Minister Vic Toews, President of the University of Manitoba **Dr. David Barnard**, Vice-President (Research) of the University of Manitoba **Dr. Digvir Jayas**, Donor **Clayton H. Riddell**, Namee **Nellie Cournoyea**, Canada Research Chair in Arctic System Science **Dr. David Barber**, and CERC **Dr. Søren Rysgaard**.

In addition to the new chair, the University of Manitoba will invest in three new tenure track faculty positions, post-doctoral and research associate positions, graduate students, and support staff. The Faculty's Centre for Earth Observation Science will more than double its size to over one hundred people.

Pictured below from left, Dr. David Barnard, Clayton H. Riddell, Dr. Digvir Jayas, Vic Toews, Nellie Cournoyea, Dr. David Barber (Associate Dean (Research), Clayton H. Riddell Faculty of Environment, Earth, and Resources), Dr. Søren Rysgaard, and Dr. Norman Halden (Dean, Clayton H. Riddell Faculty of Environment, Earth, and Resources).

Food Insecurity in Northern Manitoba: The Research Journey.

Although Health Canada conducted a standardized survey on food security across Canada it neglected to survey First Nation communities.

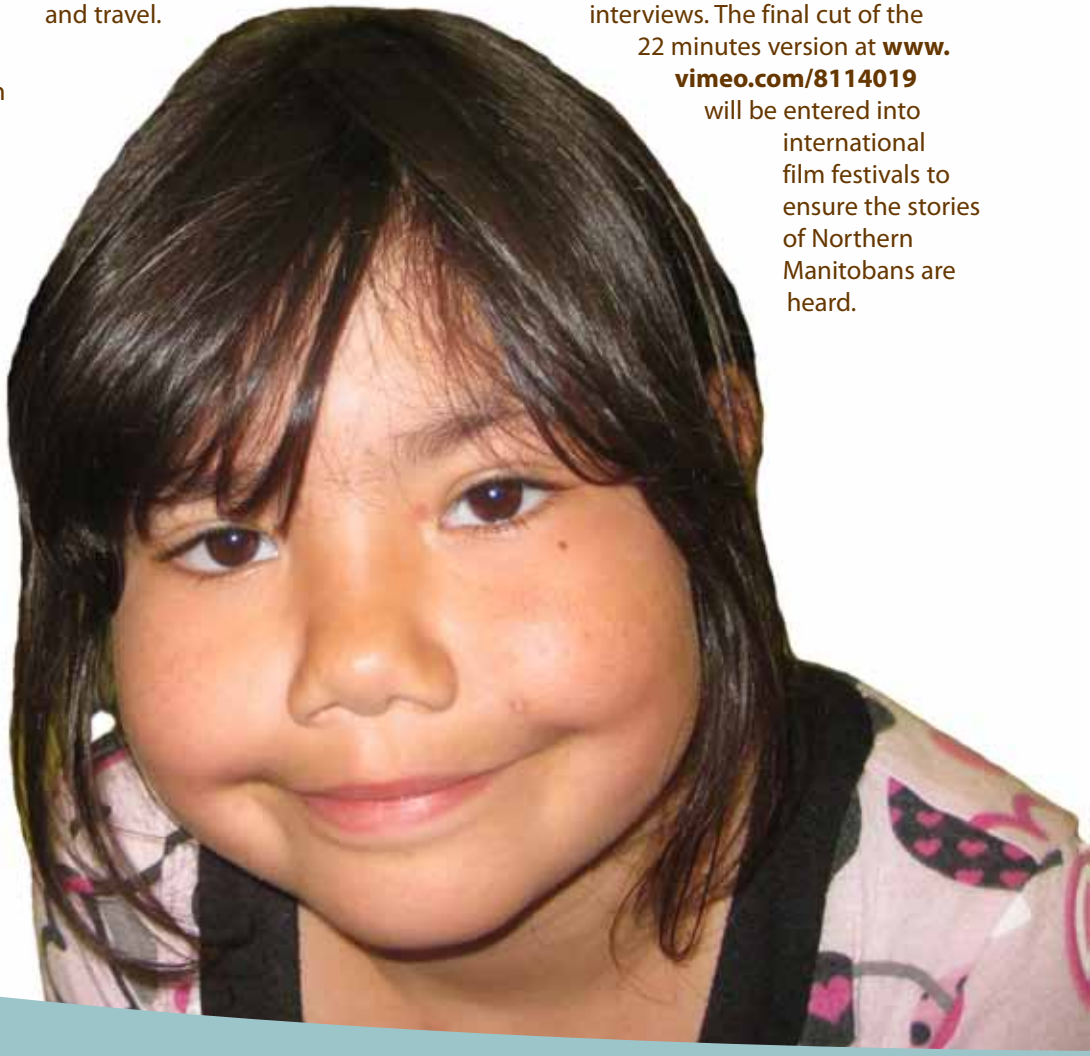
Dr. Shirley Thompson's (Natural Resources Institute) SSHRC and CIHR funded research is the first to research food insecurity in First Nation communities in Canada, finding food insecurity rates of 75% in a survey of 534 households in 14 Northern Manitoba communities. This rate is eight times the Canadian average and shows that there is a food security crisis in these communities due to the high cost of food, reduced use of country foods due to regulation, and low income. In Nelson House First Nation, which is close to Thompson, food insecurity rates are much lower. People in the community attribute these lower levels of food insecurity with their country foods program. This country food program is paying traditional hunters and fishers to fill freezers with traditional foods, including fish, so that this food is available to those in need and elders without charge.

This rate is eight times the Canadian average and shows that there is a food security crisis in these communities.

A feature reporter, Margaret Webb, followed the travels of Dr. Thompson's northern Manitoba food research work and wrote an article in the magazine Diabetes Dialogue, published in the spring of 2010. The research involved Natural Resources Institute (NRI) masters student, **Vanessa Lozecznik** and fellow student, Ryan Klatt. They were carrying out participatory video research regarding gardening and other subsistence activities, as well as undertaking food costing, and household food security assessments. Vanessa and Ryan videotaped people in Wabowden, Cormorant, Thicket-Portage, Ilford, and War Lake First Nation on the Bay Line train. Most of these communities do not have any food stores and so people must travel to Thompson by train, which comes back the next day. The cost of travel to get groceries is $250 to $300, which leaves little money left over for food. These communities have high unemployment rates and so people have limited income to pay for food and travel.

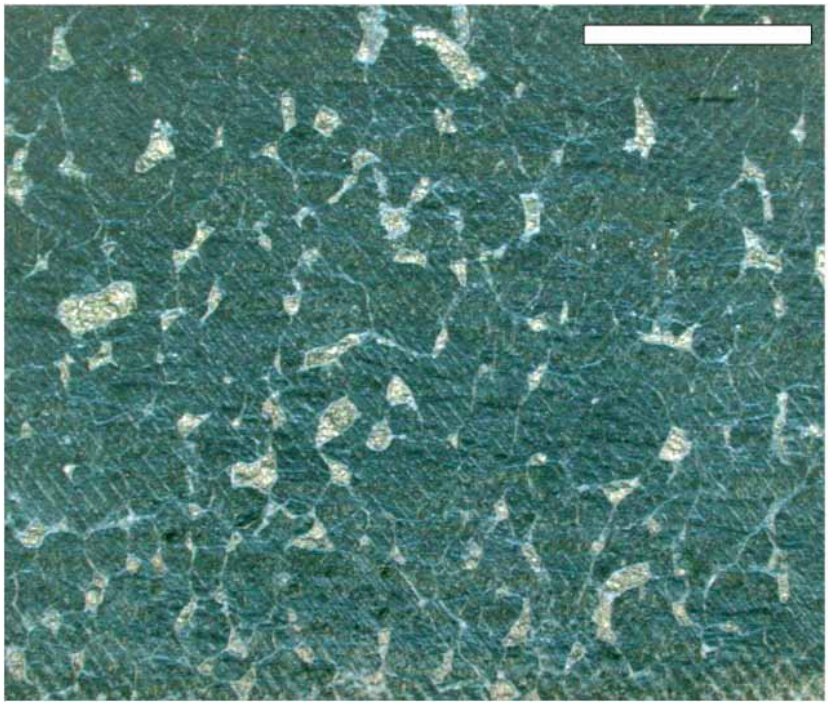
Gardening and subsistence food is very important to ensure survival.

Many communities including Wabowden, South Indian Lake First Nation, Leaf Rapids, St. Theresa Point First Nation and Berens River First Nation had community workshops to ask for feedback on the video trailer, ***Growing Hope in Northern Manitoba***. It has received international recognition by Intercontinental Cry. This video can be viewed at: **www.intercontinentalcry.org/growing-hope-in-northern-manitoba-communities** and has been viewed thousands of times. At these workshops, posters and presentations were provided on findings and asked for input into the video and further interviews. The final cut of the 22 minutes version at **www.vimeo.com/8114019** will be entered into international film festivals to ensure the stories of Northern Manitobans are heard.



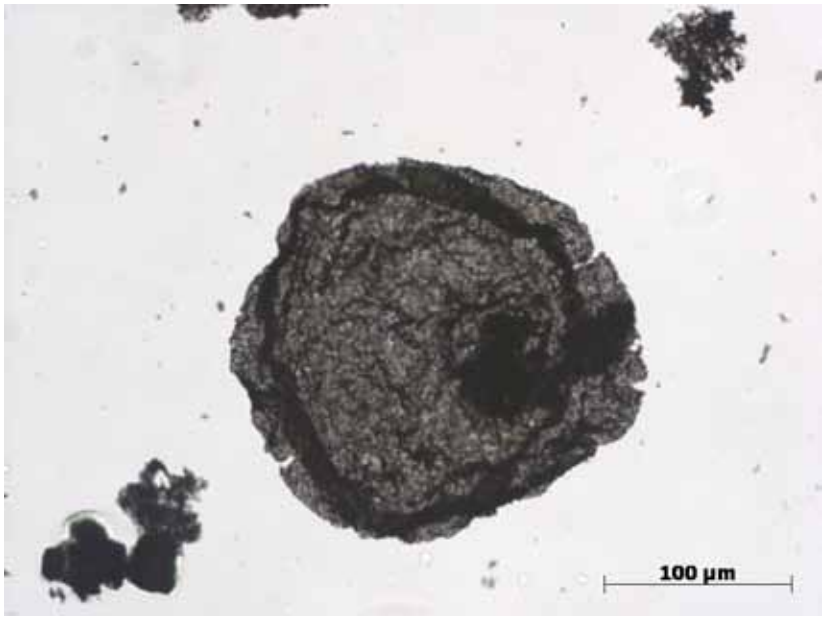
Research in the Archean.

Dr. Andrey Bekker (Geological Sciences), published one article in *Science* and one in *Nature* during the past year. He was lead author on the article in *Science*, which discussed the origin of economically important nickel sulfide deposits associated with mafic to ultramafic volcanic and plutonic complexes. The source of sulfur for these deposits remains enigmatic; both crustal and mantle sources were entertained. Scientists have recognized for a long time that the amount of sulfur in the mantle is insufficient to saturate melts with sulfide and cause precipitation of nickel sulfides. The crustal source was generally favored but direct evidence in support of this model was lacking. The team used a unique signature of multiple sulfur isotopes, that could have formed only in an anoxic Archean atmosphere that was transferred to crustal rocks. This proved that crustal contamination was an important process necessary to reach sulfide saturation and to form these economically important mineral deposits. Life played a key role in this process.



Disseminated nickel sulfides from the Goliath Deposit in the Agnew-Wiluna Greenstone Belt, Western Australia. Disseminated nickel sulfide mineralization generally occurs within olivine adcumulates.

The paper in Nature presented the finding of by far the largest microfossils from the ~3.2 Ga sedimentary rocks of the Barberton Greenstone Belt, South Africa. Using a number of analytical techniques, the authors unequivocally established that these forms are not recent contamination or non-biological artifacts, yet the affinity of these forms remains uncertain; they might be the oldest eukaryotes or complex colonies of cyanobacteria. The ongoing work is directed to resolve between these options. Stay tuned however for further news on biological and geochemical discoveries since in the latest article accepted to Nature, Bekker and his co-authors argue for large colonial organisms with coordinated growth behavior in oxygenated environments 2.1 billion years ago.



The oldest large microfossils found in ~3.2 Ga sedimentary rocks of the Barberton Greenstone Belt, South Africa.

Conservation Research in Paraguay.

In the fall of 2009 as part of a research program initiated by **Dr. David Walker** (Environment and Geography), the University of Manitoba signed a ten year agreement with Itaipu Binacional the world's largest hydroelectric company to establish a conservation research centre and associated programs in Paraguay. The research centre and study site is located within the Alto Parana, a region containing some of the last remnants of the eastern Atlantic tropical rainforest. This once extensive forest has been lost primarily through agricultural clearing and changing landuse in the region resulting in substantial impacts on biodiversity in Paraguay. The first research program to establish under this initiative partners Agriculture and Agri-Food Canada (AAFC) and the University in the establishment of a Group on Earth Observations (GEO) Joint Experiment for Crop Area Monitoring (JECAM) site. To support this initiative and in partnership with Itaipu, a research program to investigate the application and enhancement of AAFC crop productivity, mapping, and landcover analysis tools is underway. This will provide important baseline information for monitoring landuse change in the future, while bringing expertise in advanced remote sensing platforms such as RADARSAT II to Paraguay. This is the first of many projects to bring scientific expertise to the country in what is hoped to be a long and valuable exchange between the University and partners in Paraguay.

Graduate Student Research.

Erin McCance, Doctoral Student, Environment and Geography.

Understanding Urban White-tailed Deer Movement in the City of Winnipeg

This study investigates deer movements and distributions in the city of Winnipeg in order to assist with their management. Using Wild Cell GSM (Global System for Mobile Communication) collars, the study intends to provide information on urban deer movement, range, habitat choices, and corridor use in residential spaces. GIS analysis of deer land use may have an impact on how we manage the population, design roadways, and proactively plan for urban development and infrastructure. Coupled with the analysis of how deer use urban space, the study incorporates human dimensions research, by way of qualitative, one-on-one, semi formal, personal interviews.

The study is prompted by the exploding urban white-tailed deer populations experienced in many North American urban centres. Although several have developed management strategies, movement patterns, corridor use and habitat selection of urban white-tailed deer are often poorly understood. Throughout the twentieth century, urbanization and capital expansion have progressively engulfed undeveloped land; yet, today, there is recognition of the implications of this development and a growing concern for the environment, habitat loss, and reduction of global biodiversity. The importance of acknowledging ecosystem integrity is becoming apparent in what is increasingly being called the "zoopolis," the contemporary urban centre that is populated by both humans and animals, and that must be designed for their co-existence.

Michelle Moayeri, Master of Science Candidate, Environment and Geography

Foraging Ecology of Gray Wolves in Relation to Anthropogenic Corridors and the Impacts Upon Woodland Caribou.

This research study is being undertaken to understand possible vectors of caribou (*Rangifer tarandus caribou*) mortality in northern Manitoba focusing on understanding predator-prey dynamics. It will acquire baseline data on the annual foraging ecology of gray wolves (*Canis lupus*) within the Northern Registered Trapline District in Manitoba through scat and stable isotope analysis of $\delta^{13}C$ and $\delta^{15}N$ signatures in hair. Scat analysis can provide valuable information on the feeding ecology of wolves by providing an estimate of the proportion of different prey species consumed while $\delta^{13}C$ and $\delta^{15}N$ signatures from hair samples can demonstrate variation in diet on a longer temporal scale. Scats are being opportunistically collected by trappers and Natural Resource Officers and hair samples through the set up of barbed wire corrals, rub stations, and pelts obtained from trappers in the region. Obtaining information pertaining to predator diet serves as an essential component to understanding the role that this top carnivore plays in this wolf-caribou-moose (*Alces alces*) system. Diet composition will be compared between various locations and hair samples will be analyzed for seasonal shifts in foraging. Knowledge of wolf food habits will provide critical information that will ultimately allow for more informed decision making when compiling data into recovery strategies for woodland caribou.

Research Grants - NSERC.

Dr. Norman Halden (Dean of the Faculty, Geological Sciences) was awarded a Research Tools and Instruments (RTI) grant in the amount of $37,949 for a for laser microscope. This will be used to analyze samples at low temperatures – ideal for measuring the chemical makeup of minerals in ice.

Dr. Andrey Bekker (Geological Sciences) was awarded a Research Tools and Instruments (RTI) grant in the amount of $86,570 to be used for infrastructure for sample preparation and characterization for stable isotopes analyses. The grant, matched with funds from the Faculty, and the University, will be used to purchase a binocular microscope with a camera for mineral separation and documentation of geological samples, a carbon and sulfur analyzer, and a pulverizer. This is an important addition to the geochemical facilities that he supervises and will be used by his group to study modern and ancient biogeochemical cycles.

Dr. Ronald Stewart (Head, Environment and Geography) was awarded a Discovery Grant (DG) in the amount of $215,000 over five years for the project entitled, "Winter precipitation types and their occurrence". This research will examine the production of many types of winter precipitation (including freezing rain, wet snow, ice pellets) over flat terrain such as Manitoba as well as over sloped terrain such as the Rockies. This ensuing insight will be applied to improved numerical predictions of hazardous winter weather conditions in weather and climate models and to improved satellite-based assessment of winter precipitation globally.

Dr. Frank Hawthorne (Canada Research Chair, Geological Sciences) was awarded a Discovery Grant (DG) in the amount of $725,000 over five years for the project entitled, "Theoretical and experimental crystal chemistry". His future work will focus on the bond-topological basis of mineral stability and energetics using a combination of Mathematics (Graph Theory and Combinatorial Topology), Physics (Bond-Valence Theory), Theoretical Chemistry (Moments and Electronic Structure) and Crystallography.

Dr. Wooil Moon (Senior Scholar, Geological Sciences) was awarded a Discovery Grant (DG) in the amount of $100,000 over five years for the project entitled, "Theoretical and new geophysical application research of fully polarimetric synthetic aperture radar (SAR) for earth and environment systems".

Research Grants - SSHRC.

Dr. Iain Davidson-Hunt (Natural Resources Institute) was awarded a Standard Research Grant (SRG) in the amount of $123,420 over three years for the project entitled, "Cultural landscapes as land-based practice: Everyday life and the conservation of natural and cultural heritage". This research will document the linkages between landscapes and household economies through a focus on contemporary harvesting practices in three to four cases located in Canada and Latin America. Cases will be selected by graduate students enrolled in the M.N.R.M and Ph.D. programmes of the Natural Resources Institute. In each case, students will trace the movement of landscape elements from their source and their material and symbolic transformations into products for consumption and exchange. These cases will help us better understand the dynamics of harvesting ways of life as part of contemporary cultural landscapes.

Research Grants - other sources.

Dr. Emdad Haque (Director, Natural Resources Institute) was awarded a grant by the International Development Research Centre (IDRC) in the amount of $230,315 over four years for the project entitled, "Climatic variability, societal changes, and Dengue disease in Bangladesh: Application of an integrated ecohealth and adaptive management approach (IEAMA)".

Dr. Rick Baydack (Environment and Geography) was awarded a grant by the Networks Centres of Excellence (NCE) in the amount of $15,000 for the project entitled, "Understanding urban white-tailed deer use of hydro corridors within the greater Winnipeg area". This support

is in addition to $85,000 previously received from Manitoba Hydro, and the research will determine if hydro corridors can be managed in ways that will attract white-tailed deer thereby reducing their use of roadways and lessening the probability for deer-vehicle accidents.

Dr. Nicola Koper was awarded a grant by Cenovus Energy Inc. in the amount of $320,000 for the project entitled, "Effects of shallow gas development on grassland songbirds." This funding will support research by Dr. Koper, two graduate students and a post-doctoral fellow to evaluate effects of the infrastructures and trail systems associated with shallow gas development in southern Alberta on diversity and nesting success of prairie songbirds.

Dr. Jeff Masuda (Environment and Geography) has received a Canadian Institutes of Health Research New Investigator Award. The purpose of the award is to provide new investigators the opportunity to develop and demonstrate their independence in initiating and conducting health research through provision of a $60,000 per year contribution to their salary for a period of 5 years (total $300,000). Within the health research world, the award represents the highest level of professional achievement that is available in Canada for those at his career stage.

Federal Minister of State (Science and Technology) Gary Goodyear announced $1 million for the Manitoba Alternative Food Research Alliance (MAFRA) to launch an intensive research project into food justice. The Social Sciences and Humanities Research Council of Canada (SSHRC) fund this Community University Research Alliance (CURA) grant.

"Our research will be rooted in real-world problems and solutions,"

Dr. Stéphane McLachlan (Environment and Geography), the principal investigator for MAFRA, said their aim is to help affected communities come up with answers to problems associated with food justice. "Our research will be rooted in real-world problems and solutions," he said. "Despite being a key exporter of agricultural commodities, Manitoba is one of the provinces most challenged by poverty and food insecurity in Canada. These shortcomings underlie a growing excitement over alternative food systems here.

Dr. Feiyue Wang named the Sir Allan Sewell Visiting Fellow.

Dr. Feiyue Wang (Environment and Geography), received the 2010 Sir Allan Sewell Visiting Fellowship from Griffith University, Australia. The Sir Allan Sewell Visiting Fellowship Award is awarded to overseas and Australian scholars whose short-term visit stimulates significantly the academic effort of Griffith University. The fellowship allowed him to spend part of his sabbatical in Gold Coast (better known as "Surfers Paradise") from January to February 2010. While busy surfing and beach volleyballing, Wang found time to collaborate with his host, Dr. Peter Teasdale, on uranium research. Together they have developed a novel analytical probe to determine the concentrations and molecular forms of uranium in natural waters. With the increasing demand for nuclear energy production, uranium is becoming an emergent contaminant of concern in the Canadian environment. Dr. Wang was the leading scientist of an NSERC strategic grant project on uranium removal, and is working on several new uranium research initiatives with colleagues **Dr. Mostafa Fayek** and **Dr. Frank Hawthorne**, both Professors in Geological Sciences.

Dr. Wang is currently spending the rest of his sabbatical at Harvard University, Boston. Instead of chasing emerging contaminants, he is modelling the global cycling of mercury, an "old" contaminant that refuses to go away and keeps surprising and inspiring environmental scientists. In particular, he is working with the Harvard Atmospheric Modelling Group, led by Dr. Daniel Jacob, to put the Arctic sea-ice environment into the global mercury model. Such a model will provide insights into how Arctic marine ecosystems will respond to mercury emissions and emission controls under a changing climate. The modelling exercise will also help design experiments to address critical knowledge gaps at the Sea-ice Environmental Research Facility (SERF) that Wang directs at the University of Manitoba.

Artists on Board.

A unique and dynamic partnership between the University of Manitoba and the Winnipeg Symphony Orchestra (WSO) was initiated in the fall of 2007 to co-host the opening night of the New Music Festival and a Gala Reception. The goal was to inform the audience about the dramatic changes that are happening in the Arctic, by inviting musicians and artists to create a non-traditional approach to imparting knowledge to the public.

The CFL project (2007-2008) was part of the fourth International Polar Year (IPY), a multi-country science collaboration focused on the planet's polar regions. **Dr. David Barber** (CRC, Environment and Geography, & CEOS) led the CFL project, which included a nine-month overwintering field program in the Arctic on the icebreaker CCGS *Amundsen*. One of the many unique aspects of the project was the **Artists on Board** program, which fostered an age-old collaboration between researchers and artists. In centuries past, musicians were employed on long scientific voyages to provide entertainment, and artists were engaged to create a visual record of the journeys. Following in the footsteps of this tradition, four artists and musicians spent time on board the *Amundsen* during the CFL project.

Pictured above from left, David Barnard, Trudy Schroeder, David Barber, Joanne Keselman and Digvir Jayas. Below: Inuit youth group from Nunavut Sivuniksavut College including: Nuqinga Korgak, Andrea Flaherty, Pamela Arualak, Elena Kataluk, Clara Akulukjuk, Debbie Oyukuluk, Charlotte Carleton, Kathleen Merritt, Kevin Iksiktaaryuk and David Serkoak (instructor and performer).

The gala evening was held on February 6, 2010 at the Centennial Concert Hall, and began with a presentation by **Dr. Barber** about the Arctic. Vincent Ho, composer-in-residence for the WSO, premiered his Arctic-inspired piece, *Arctic Symphony*, which was broadcast on CBC Radio. Throughout the evening, an Inuit youth group performed traditional music. Artwork created by **Artists on Board** participants George Gartrell and James Rubin was displayed, along with photos from CFL photographer Doug Barber.

NRI Research in Brazil.

Five students from the Natural Resources Institute are getting ready to go to Brazil to participate in the project, *"Community-based resource management and food security in coastal Brazil"*. This is the five-year team research project that started in the past year, supported by the International Development Research Centre (IDRC) and the Canada Research Chairs (CRC) program. Dr. Alpina Begossi of State University of Campinas, the Principal Investigator of the project, came to the University of Manitoba last January for workshops and graduate student training. **Dr. Fikret Berkes**, who holds a Tier I CRC position, is the Canadian head of the project. He spent much of the month of March at the State University of Campinas and at the project field site in Paraty.

The Paraty area is economically underdeveloped, and is largely populated by Caiçara people, a mixed heritage group similar to the Canadian Metis. The Caiçara make their living from fishing, small-scale agriculture and increasingly from tourism-related activities. Their small-scale fisheries are impacted by trawlers from the outside, and their agriculture (which uses shifting cultivation techniques) is being restricted due to new protected areas in the region. How can the Caiçara still make a living? How can they take advantage of the tourism economy and offshore oil and gas development just starting up? How can they take part in resource management decision-making under Brazil's new laws that mandate co-management?

Researchers from the NRI have some experience and interest in these questions. Between May and October, two Masters and three PhD students will be starting their field research in Paraty. **Carlos Idrobo** (PhD) will be studying continuity and change among the Caiçara. **Lydia Carpenter** (Masters) will be working on resource-based livelihoods, with emphasis on gender division of labour. **Dale Giesbrecht** (Masters) will be looking at sources of credit for fishers, and the potential of micro-credit. **Luiz Chimello** (PhD), who holds a Masters from Campinas, will study the role of drivers and develop scenarios regarding the future of the region. **Micaela Trimble** (PhD) will work on adaptive co-management in the fishery.

Aboriginal Issues Press.

The Aboriginal Issues Press has recently launched two new books.

On February 5th, 2010 the book ***"Environmental Changes and Off-road Transportation in Churchill, Manitoba"*** was launched. It is a single authored, refereed community report that links harvesters' traditional and local knowledge observations with scientific knowledge on the implications of environmental change on off-road transportation in Churchill, MB. Based on **Justin Gilligan's** University of Manitoba Master of Arts thesis of the same name (2007), this report was prepared for the community of Churchill and others who may find useful the observations on environmental change. Hunters, trappers, and fishers are experts on local environmental change; rather than testing or validating traditional and local knowledge against scientific knowledge, observations from both knowledge systems are presented here in parallel to gain a more holistic understanding of the impacts and opportunities that face harvesters in the Churchill area.

Aboriginal Issues Press launched their newest publication, ***"Hudson Bay Region Research"*** on April 6th, 2010.

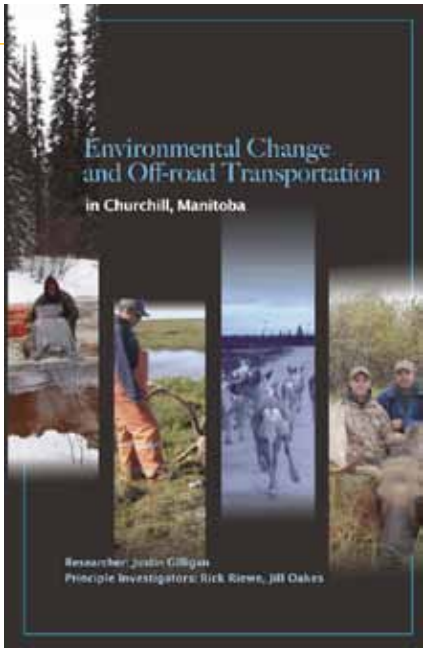
Edited by students **Linda Chow** and **Kelly McKay**, the 350-page book covers research undertaken in the Hudson Bay region. The book is organized into 13 chapters covering topics such as health, birds, botany, geology, tourism, contaminants, and history.

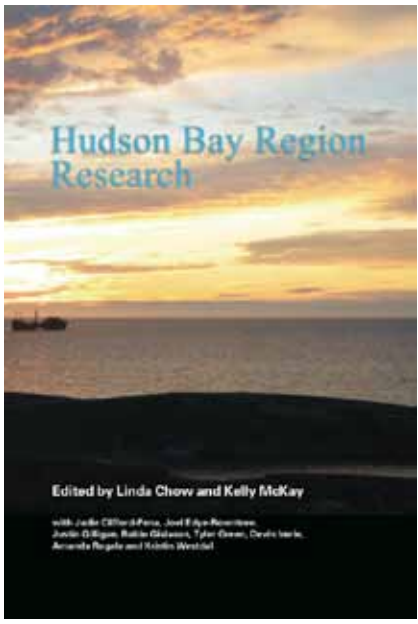
In 2007 the editors and about 20 other students collected research summaries from the region to create a unique snapshot of research activity. **Dr. Jill Oakes** (Chow's graduate research supervisor) suggested that the collection of summaries could form a book and encouraged them to seek funding from Manitoba Hydro. As Chow noted "*Manitoba Hydro and researchers do so much work up north that this book was a way for all of us to give back to the community. As researchers we go into the communities and do all this research and now community members have an accessible way to learn about what we're doing and why.*"

Despite now living in two different cities, the two editors worked diligently for two years to bring the project to fruition. As Dr. Oakes observed *"It was neat to see their dedication, their work, their commitment".* The book is also available in an electronic format: to save paper Manitoba Hydro suggested the book be put on DVD, increasing its accessibility while decreasing its paper use.

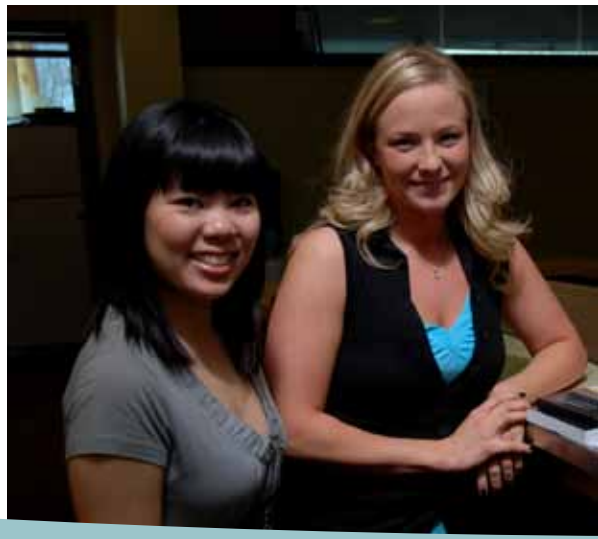
All profits from the sale of Aboriginal Issues Press books are used to fund a Scholarship for students who are studying in a field of Aboriginal interest. Scholarships have been awarded to three deserving students for each of the last three years and the 2009 recipients of this Scholarship were **Ainslie Cogswell**, a PhD student in Anthropology, **Amelia Curran**, a Masters student in Sociology and **James Robson**, a PhD student in the Natural Resources Institute.

To order copies, visit the Aboriginal Issues Press website at: **www.umanitoba.ca/environment/aboriginal_issues_press**





Pictured below from left, Linda Chow and Kelly McKay.



Japan-Canada Consortium Forum.

As part of the recent Japan-Canada Academic Consortium (JACAC) Forum on Environmental Issues and Sustainable Innovation, four University of Manitoba students had the opportunity to travel to Tokyo, Japan, from February 15th to 23rd for the first ever forum, slated to become an annual event with Japan and Canada alternating as hosts. JACAC's original mission was to promote cross-collaboration and cooperation through semester and year-long academic exchanges. The Forum event aims to have a bigger impact by connecting a greater number students, professors, and researchers together, to effectively share accumulated knowledge, and to learn from one another.

This year's Forum had presentations and seminars by graduate students, professors, and researchers from both countries, on topics ranging from wetland reclamation and species migration, to ecologically sustainable economic development. A major topic of concern was waste management, a real problem in a city as large as Tokyo, and one that, even in Canada, is increasingly becoming a topic of concern to the public. Throughout the conference, senior undergraduate students worked on group research projects, which were presented to the Royal Empress of Japan and the Canadian Ambassador at the Canadian Embassy on the last day of the Forum.

A major component of the learning experience was the practical component. Field trips and excursions were held nearly every day, and spanned one end of the city to another (no small feat). Discussion ranged from economic development and cooperation between Japan and Canada at the Ministry of Foreign Affairs, and included visits to garbage and recycling facilities that serviced a major portion of the city.

Pictured above from left, Raj Maharaj, Sophia Lavergne, Vicki Latter and Brad Kennedy.

Waldrum Fellowship.

Lisa Bergen, Bachelor of Environmental Studies Coop, (pictured right) was selected as the recipient of the J. Michael Waldram Memorial Model Forest Fellowship for 2010. The fellowship includes a $1,000 bursary and a complimentary student membership in the Canadian Institute of Forestry.

The Canadian Model Forest Network established the J. Michael Waldram Memorial Model Forest Fellowship, as part of the suite of awards bestowed by the Canadian Institute of Forestry. The first Fellowship was awarded in 2008.

MEIA Environmental Career Fair.

On Wednesday, March 10th, 2010 the first annual MEIA Environmental Career Fair took place at the University of Manitoba. The student-led initiative set out to provide current undergraduate and graduate students and recent grads with an opportunity to network and explore possible career paths in Manitoba's environmental sectors. A total of 35 organizations were recruited to host booths representing the private sector, public sector, and non-governmental organizations. Environmental practitioners and employees from these organizations interacted with students, explaining their areas of expertise and offering insight about environmental career planning and existing opportunities for students in Manitoba. In addition to the exhibition booths, a total of 23 presenters took part in the fair's 12 breakout sessions, with topics ranging from careers in sustainable development, water management, and wildlife rehabilitation to information on how to apply for research funding. Students from the Clayton H. Riddell Faculty of Environment, Earth, and Resources were encouraged to take part in the events, and over 400 students from across Manitoba including a group of students from Split Lake were in attendance. After the main exhibition and breakout sessions,

a wine and cheese networking reception brought the event to a close. Following speeches from the Dean of the Clayton H. Riddell Faculty of Environment, Earth, and Resources and the MEIA's executive director and student chapter, students and practitioners were able to socialize and share ideas, continuing to build mentoring relationships.

Cheryl Sobie, a 2nd year Environmental Studies student said, "*For me the environmental career fair was a great experience as not only did I have the opportunity to work with other students, I also had the opportunity to meet and connect with professionals in my field. The learning experience that I gained from volunteering with the career fair is something that I consider invaluable and I am looking forward to it next year.*"

Angela Howells a 2nd year Environmental Science student said, "*I thought the career fair was a tremendous success. I learned about many different environmental employers and met many potential employers. Hopefully next year we can focus on further reducing the environmental impacts of the career fair.*"

Kelsey McCuspey, sustainable development coordinator at MLCC said, "*The Career Fair was an awesome opportunity for students!*"

Communications advisor with Environment Canada, **Cynthia Thoroski**, reflection on the career fair was, "*There was some great energy in that room and I was really glad that our Winnipeg programs were a part of it.*"

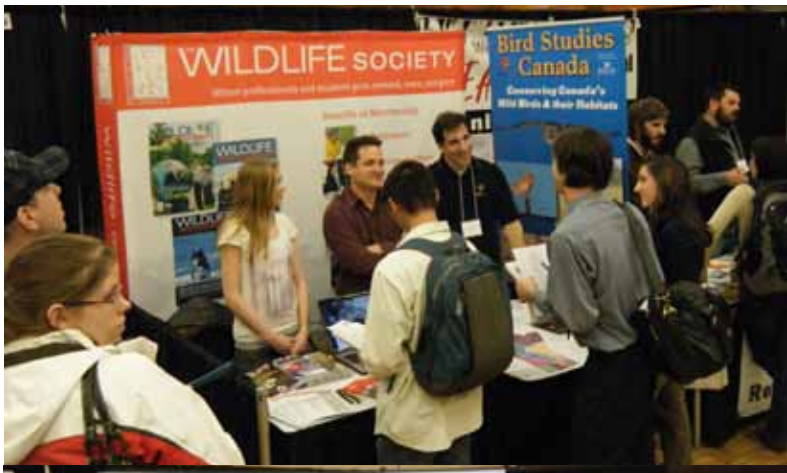
Pictured Left, Melanie Krasowski.

Participating Companies:

Manitoba Environmental Industries Association
Environment Canada
Health Canada
Miller Environmental
Canadian Parks and Wilderness Society
HAZCO Environmental Services
Manitoba Hydro
Manitoba Lotteries Corporation
The Wilderness Committee
University of Manitoba
University of Winnipeg
The Wildlife Society
Bird Studies Canada
Manitoba Water Stewardship
Organic Food Council of Manitoba
Northern Healthy Foods Initiative
ALS Laboratory Group
Prairie Wildlife Rehabilitation Centre
Defence Construction Canada
Department of National Defence
Manitoba Forestry Association
Canadian Institute of Forestry
MMM Group
Stantec
ATLIS Geomatics
Manitoba Liquor Control Commission
Transport Canada
Demand Side Energy
North/South Consultants
NSERC
NRC-IRAP
BEAHR/ECO Canada
Manitoba Eco-Network
Parks Canada
Climate Change Connection
Centre for Earth Observation Science
AMEC
Oak Hammock Marsh
Ducks Unlimited

Sponsors of the Event:

University of Manitoba
Clayton H. Riddell Faculty of Environment, Earth, and Resources
Manitoba Environmental Industries Association



IMPORTANT DATES

June 17
World Day to combat desertification and drought

July 11
World Population Day

August 9
International Day for the World's Indigenous People

August 27 - 29
Department of Geological Sciences Reunion
umanitoba.ca/geoscience

September 27, 2010
Deadline for the next issue of this newsletter

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 issue of the newsletter.

This image shows the landscape of vineyards near Valdobbiadene in northern Italy notable for the production of the sparkling wine "prosecco". The image was taken during the planning trip for the new course "Cultural Landscapes of Northern Italy" in May 2009. Since then the course team (comprised of faculty from each of the Riddell Faculty's units and the Faculty of Architecture) has developed the course structure, philosophy, and activities. This year the course has run for the first time led by **Dr. Bonnie Hallman** (Environment and Geography) and **Dr. Iain Davidson-Hunt** (Natural Resources Institute). The course begins in Venice and then travels onto the mainland to examine the impact of human activities on landscape and the related cultural, social, and environmental meanings.

University of Manitoba | CLAYTON H. RIDDELL Faculty of Environment, Earth, and Resources

Phone: (204) 474-7252
Fax: (204) 275-3147
www.umanitoba.ca/environment