

10 Years.

This year marks the 10th anniversary of the founding of the Clayton H. Riddell Faculty of Environment, Earth, and Resources. Our faculty, staff, and students have accomplished a great deal and have built a strong foundation for our future initiatives. The legacies of our constituent units, **Geological Sciences, Environment and Geography**, the **Natural Resources Institute** and the **Centre for Earth Observation Science (CEOS)**, represent over 100, 60, 40, and 20 years respectively. Over the ten years of the Riddell Faculty, there have been many new initiatives that encompass our unique interdisciplinary and disciplinary perspectives evident in our research, teaching, and outreach.

On September 26th, 2013 we will be celebrating this anniversary at the University of Manitoba's Homecoming. In the morning, there will be a student research poster competition in Hanley Hall in St. Paul's College. In the afternoon, there will be

four presentations by **Dr. Genevieve Ali** (Geological Sciences), **Dr. Iain Davidson-Hunt** (Natural Resources Institute), **Dr. Mark Hanson** (Environment and Geography), and **Dr. Jonathan Peyton** (Environment and Geography) on the theme of "*Water and the Making of Modern Manitoba*". Their talks from their very different disciplinary perspectives will allow all participants to reflect on water as an important, valuable, and influential resource. A reception and tours of facilities will take place after the talks that will provide opportunities for our alumni to reconnect with colleagues, faculty, and fellow alumni. For more information about our University of Manitoba's Homecoming events go to <http://umanitoba.ca/environment/alumni>.

Pictured (left to right): Dr. Jonathan Peyton, Dr. Genevieve Ali, and Dr. Mark Hanson work with a groundwater model. Not pictured: Dr. Iain Davidson-Hunt. Photo credit: Jason Jorgenson.



Student Initiatives.

Students in the Riddell Faculty often undertake additional activities far beyond their program requirements. To acknowledge these activities, the Riddell Faculty awards an undergraduate and graduate student initiative prize. The prizes recognize students who have developed, built upon and/or contributed to local, regional, national, and international initiatives that serve the greater good. The undergraduate initiative prize has been awarded four times and the graduate initiative prize three times, each valued at \$1,000 since they were introduced in 2008. As shown below, the recipients' contributions are diverse and reflect the energy and commitment of our students.

Undergraduate Initiative Awards:

- 2013 - **Natalie Baird**, B.Env.Sc.(Hons.) Initiated the Environmental Youth Art Mentorship program which, through weekly gatherings, brings together a small group of talented young activists with environmental practitioners and artists.
- 2012 - **Michelle Curry**, B.Sc. Ph.G..(Hons.) Initiated and organized a Career Day in Meteorology, bringing together experts to showcase opportunities in the profession.
- 2011 - **Jill Bueddefeld**, B.A. Geography.(Hons.) As part of CPAR (Canadian Physicians for Aid and Relief) hosted fundraising events to raise money and awareness for sustainable rain-water harvesting projects for primary schools in northern Tanzania.
- 2010 - **Sophia Lavergne**, B.Env.Sc.(Hons.) Participated in Global Vision International's wildlife research project in the Limpopo province in South Africa, where she collected data that contributed to the preservation and conservation of vital African natural heritage bioregions.

Graduate Initiative Awards:

- 2013 - **Asfia Kamal**, Ph.D., Natural Resources and Environmental Management. For her work on food security in O-Pipon-Na-Piwin/South Indian Lake.
- 2012 - **Olivier Gagne**, Ph.D., Geological Sciences. As a dedicated student advocate and Senator in the University of Manitoba Senate, Mr. Gagne became a catalyst to enhance the student experience by advocating, organizing, promoting, and participating in extracurricular activities and sporting events for students.
- 2011 - **Emily Skinner**, M.A. Geography. For her involvement with the Sacred Buds Blossoming program and her commitment to contributing to the amelioration of social justice for Aboriginal peoples.



Order of Canada.

Dr. Vaclav Smil (Distinguished Professor Emeritus, Environment and Geography) was recently appointed to the Order of Canada. Dr. Smil is a renowned expert on global energy issues. As Professor Emeritus in the Riddell Faculty, he provides critical insights into energy development, distribution, and usage challenges. His diverse and prolific writings are considered essential reading by policy makers, scientists, and academics in the field. He is a frequent speaker at international forums, where he emphasizes the hazards of our current levels of energy consumption and uses the lessons of history to point a way forward. **Bill Gates** wrote in June 2013 that *"there is probably no other writer whose books I anticipate with more enthusiasm than Vaclav Smil. He brings remarkable insight to every topic he examines, combining his vast knowledge of science and energy, history and business to address some of the most pressing issues we face today."*

Dr. Smil's most recent book *"Should We Eat Meat: Evolution and Consequences of Modern Carnivory"* (published in June 2013 by Wiley-Blackwell) is a broad interdisciplinary examination and critique of meat consumption by humans throughout history and around the world. *"Harvesting the Biosphere: What We Have Taken From Nature"* (published in January 2013 by MIT Press) is a detailed and comprehensive examination of humans' exploitation and transformation of the biosphere.

Dr. Smil is a Fellow of the Royal Society of Canada and in 2010 he was named in the magazine *"Foreign Policy"* in its list of the world's Top 100 Global Thinkers. In 2000, Dr. Smil was the first non-American awarded the American Association for the Advancement of Science Award for the Public Understanding of Science and Technology.

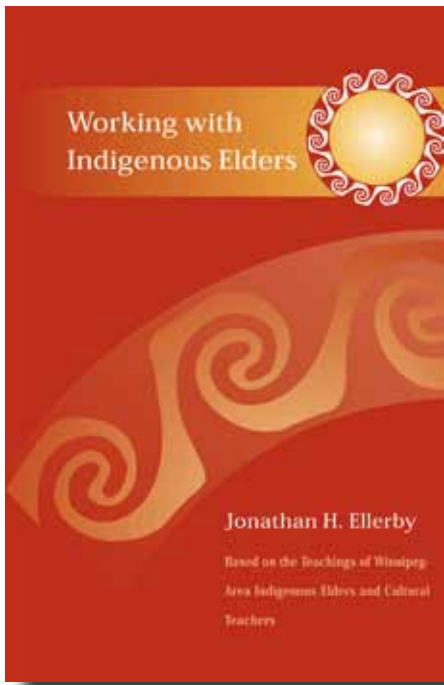


Pictured far left: Juliet Spence, Asfia Kamal (centre) and Rosalie Soulier. They are elders of the Ithinto Mechisowin (Food From the Land) program. Ithinto Mechisowin is a community initiated local food sovereignty program where community elders and food champions are hired to teach youth on traditional ways of harvesting food from the land. Juliet and Rosalie are the two elders who have been part of the food program and teach youth regularly in different youth workshops. Photo Credit: Asfia Kamal.

Pictured left: Natalie Baird with the Environmental Art Mentorship participants, standing below their collaborative installation "Displacement" at the Edge Gallery. Left to right: Georgia DeFehr, Emma Gehrs-Whyte, Natalie Baird, Sarah Thiessen, Jade DeFehr. Photo: Credit Natalie Baird.

Aboriginal Issues Press.

Aboriginal Issues Press Scholarships.



The mission of the Aboriginal Issues Press (AIP) is to promote Aboriginal studies by disseminating refereed and juried work from Aboriginal and non-Aboriginal authors examining Aboriginal issues from all disciplines. The AIP evolved from the Circumpolar Issues Press in 1990, and then from the Native Issues Press in 1995, becoming the Aboriginal Issues Press in 2003 to be administered by the Clayton H. Riddell Faculty of Environment, Earth, and Resources. Over the last 10 years, the AIP has published community-based research, works of art, scientific papers, and books authored by over 200 scholars, cultural leaders, and experts from Manitoba, Canada, and the international community.

The best sellers over the last 10 years include *Working with Indigenous Elders* by Jonathan H. Ellerby, which was published in 2001 and has sold over 1300 copies. This work includes important recommendations from Elders and cultural leaders for professionals interested in working with Indigenous Elders.

“Working with Indigenous Elders”

Author: Jonathan H. Ellerby

Over 1300 copies sold

“Seeing the World with Aboriginal Eyes”

Author: Brian Rice

Over 1200 copies sold

“Seeing the World with Aboriginal Eyes” by Brian Rice was published in 2005 and has sold over 1200 copies. It is used as a text in numerous classes as it provides valuable insights on Aboriginal worldviews.

Overall the AIP has published a total of 38 books with 29 in the last 10 years; over the last ten years, books sales have totaled over \$85,000.

To quote **Dr. Jill Oakes** (Chief Editor):

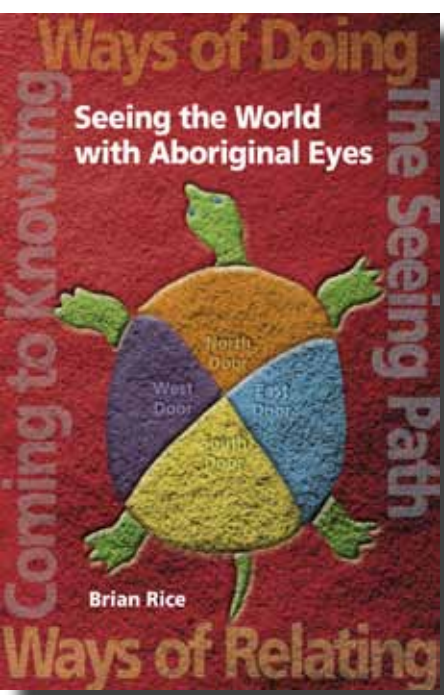
“The vision, experienced leadership, human resources, and financial support generously provided by the Clayton H. Riddell Faculty of Environment, Earth, and Resources is critical to the Aboriginal Issues Press’ success. The long term commitment from the Faculty provides all departments and faculties with scholarships and a venue for disseminating refereed non-traditional work needed to promote Aboriginal Studies in all disciplines”.

Profits from the Aboriginal Issues Press’ book sales are transferred to the Aboriginal Issues Press Endowment Fund that was established in 2004. Each year the Clayton H. Riddell Endowment Fund matches these profits to create the Aboriginal Issues Press Scholarships. Students from all graduate programs at the University of Manitoba are eligible to apply and a total of 25 scholarships have been awarded. To date, Masters and PhD students from a diverse array of disciplines including Education, Anthropology, Biological Sciences, Environment and Geography, Geology, History, Native Studies, Natural Resources Institute, Peace and Conflict Studies, Psychology, Sociology, and Social Work, have received scholarships ranging from \$500 to \$1,500 dollars. For the last few years, four or five scholarships worth \$1,000 each were distributed annually.

“I am extremely grateful for the assistance I received from the Aboriginal Issues Press Scholarship. It reminded me that there was an encouraging community of scholars also interested in promoting Aboriginal issues and studies that were with me on my academic journey. For all their support, I say miigwetch!” Kimberly Embleton. When Kim returns from maternity leave, she will be the Co-Director Urban Circle Training Centre.

“I am truly grateful to the AIP Scholarship Committee for acknowledging the value of my Masters project with a scholarship. This meant a lot to me and the community of Churchill. I was able to bring Elders into the classroom to tell students stories of what Churchill was like and how it has changed.” **Linda Chow**, (Pictured right. Photo credit: Linda Chow). Linda is now the Student Office Assistant, Centre for Earth Observation Science and co-author of *“Hudson Bay Regional Research”*.

“The Aboriginal Issues Press Scholarship is a great initiative that recognizes student work on the complex social issues faced by Aboriginal peoples in Winnipeg and beyond -- I’m very appreciative for the honour, and it’s helped me build a strong platform for an academic career in social justice.” Evan Bowness. Evan is now an instructor in the Department of Sociology at the University of Manitoba.



CCGS *Amundsen* – 10 years on.

This year also celebrates the 10th anniversary of the research icebreaker *Amundsen*. During the International Polar Year, the 980-metre long vessel became the first research icebreaker in the world to remain mobile throughout an annual cycle when she overwintered in the Beaufort Sea. In 2004, 2007, and 2008 *Amundsen* became a floating medical clinic conducting research on the health and wellbeing of people in 51 Inuit communities in the Arctic. In 2012, the ship was featured on the new polymer \$50 banknote.

The Canadian Coast Guard Ship *Amundsen*, was originally built in 1979 and as the *Sir John Franklin*, operated along Canada's Atlantic coast until 1996. Decommissioned in 2000, she was placed for sale as *Hull 2000-02*. In 2002, a consortium of researchers from Canadian universities, led by Dr. Louis Fortier, (Université Laval) was awarded a major grant to transform the hull into a state-of-the-art research icebreaker. The two major universities receiving funding for this retrofit was Université Laval and the University of Manitoba.

The *Amundsen* has now overwintered twice in the high Arctic and has clocked several hundred thousand miles of research sampling in the coastal Canadian Arctic. The *Amundsen* also supports collaborative industry-academic collaborations through the ArcticNet Oil and Gas Industry Partnership program and collaborations with Manitoba Hydro and Mining companies throughout the Arctic. The *Amundsen* scientists provide more detailed information on the physics and biology of various areas where diverse development scenarios require baseline environmental information.

More information about the *Amundsen* and the Arctic research that she is involved with can be found in the book *"Two Ways of Knowing"* by David and Doug Barber. The proceeds of from the book fund the V. E. Barber Memorial Fellowships in Arctic Research.

Pictured: The *Amundsen* in the Southern Beaufort Sea while researchers work on a climate station on rotting first-year sea ice. Photo credit: David Barber.



Partners in the North.

Over the ten-year history of the Riddell Faculty, numerous working relationships with organizations, communities, and institutions in Canada's North have been developed. Our regular and continued presence in northern communities clearly indicates our commitment to contribute to their needs first and foremost. These are also impacted by developing issues such as climate change, Arctic sovereignty, and resource development that must be addressed strategically and with the utmost care. Two important partnerships, with the University College of the North (UCN) and the Northern Manitoba Mining Academy (NMMA), seek to provide greater access to training and educational opportunities for northern Manitobans.

UCN (formerly Keewatin Community College) has a 25-year history of delivering the Natural Resources Management Technology (NRMT) Program. This two-year diploma program has produced high quality graduates that are now found within the provincial government, private industry, First Nations, and education. Each year, a number of these graduates continue their studies by applying their diploma courses towards a baccalaureate degree. Through the efforts of the Riddell Faculty and UCN, this process has been codified in a formal articulation agreement. This provides a clear road map for a student to complete the NRMT diploma at UCN and a degree at the University of Manitoba via a 2+2 arrangement. The first graduates of this articulation agreement received degrees from the University of Manitoba this spring (2013).

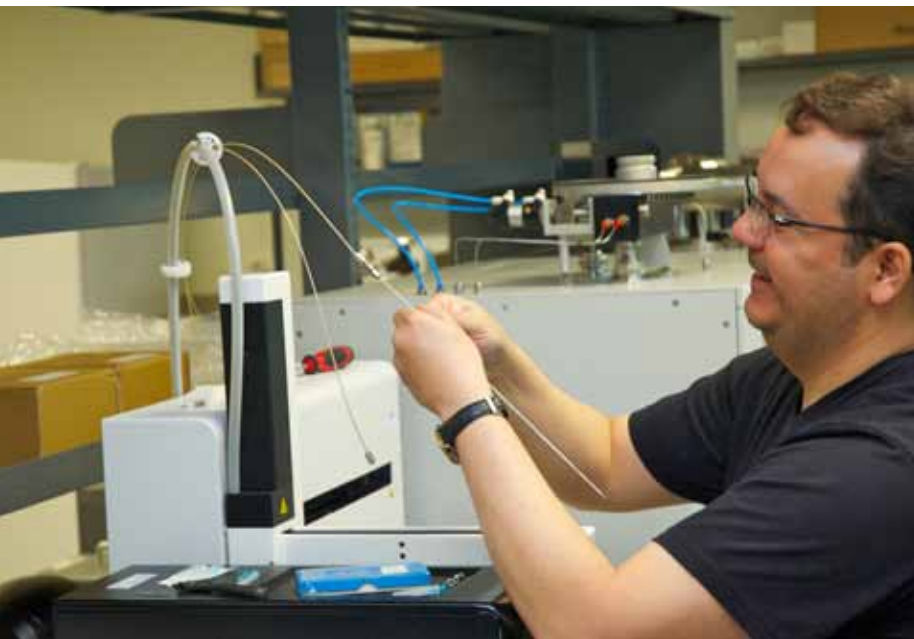
The concept for a mining-related academy in northern Manitoba began to take shape in 2009. With the assistance of the Riddell Faculty and the Department of Geological Sciences, formal plans for the Northern Manitoba Mining Academy (NMMA) were developed to include facilities and equipment that would complement those found at the Riddell Faculty. During its first year of activity (2012-2013) the NMMA hosted more than 60 students in industry-focused training (underground mining, exploration technician, diamond drilling, etc.), 40 university students involved in field courses and research, and almost 400 secondary-school students in industry awareness activities. Plans are also underway for the NMMA to deliver 6 credits of University of Manitoba introductory geology courses in northern Manitoba.

Pictured top, Dr. Norman Halden at the ThoroughTec Cybermine underground mining simulator operating a load-haul-dumper; middle, Northern Manitoba Mining Academy; and bottom, Rob Penner Executive Director, University College of the North addresses a tour group in the sample preparation laboratory. Photo Credits: Rob Penner.



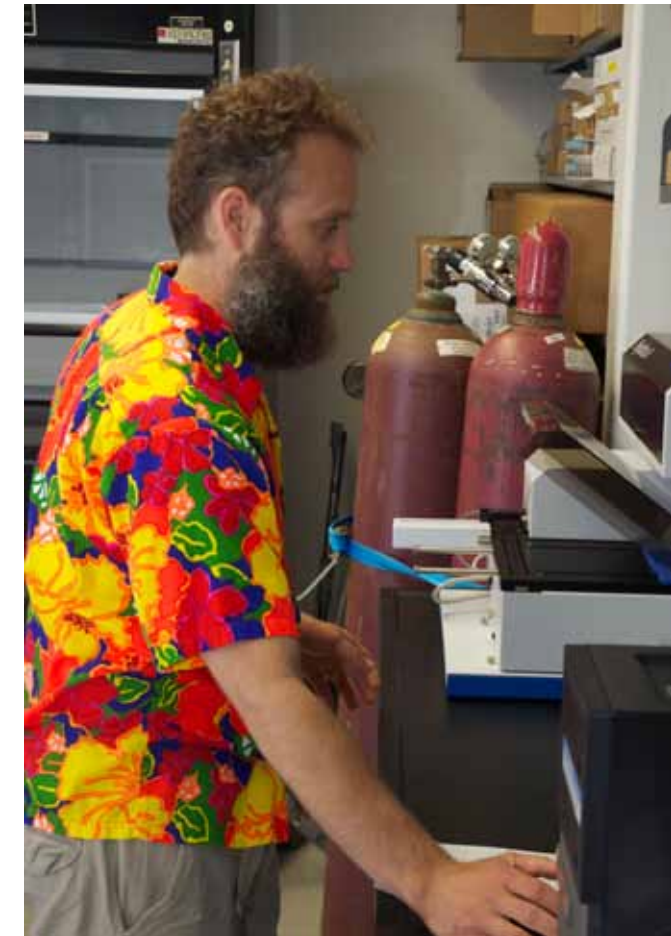
The Nellie Cournoyea Arctic Research Facility.

The Nellie Cournoyea Arctic Research Facility was officially opened in March 2013. The facility, located on the newly constructed 5th floor of the Wallace Building, occupies 60,000 square feet and entailed a budget of \$15 million. Named for Dr. Nellie Cournoyea, premier of the Northwest Territories from 1991 to 1995, its extensive facilities encompass offices, labs, theatre, and much needed space to prepare equipment for the field.



Pictured Left: Numerous lab facilities accommodate environmental, climate, and geomicrobiology research. Shown here is **Dr. Marcos Lemes** undertaking work on the chemical speciation of trace elements using an isotope ratio mass spectrometer. Photo Credit: Jason Jorgenson.

Pictured Right: The Nellie Cournoyea Arctic Research Facility also houses cutting edge analytical equipment. Shown here is **Dr. Jessie Carrie** using a mercury analyzer. This is a new innovative instrument that saves significant time. It can produce measures of elements such as mercury in minutes rather than days and in sample sizes as small as a single copepod. Photo Credit: Jason Jorgenson.

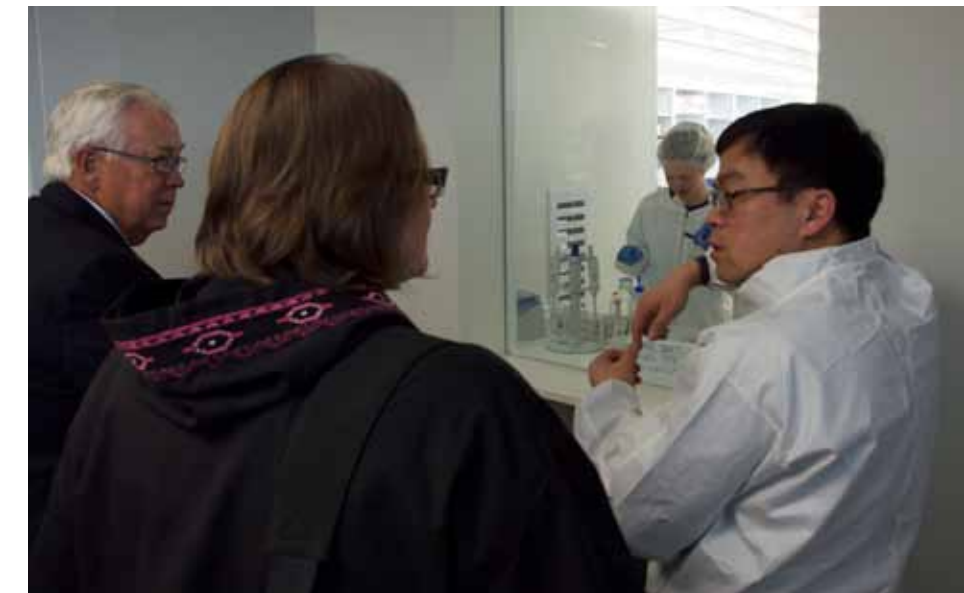


Pictured Below right: **Dr. Feiyue Wang** (Department of Environment and Geography and CEOS) (right) explains work going on in the Ultra-Clean Trace Element Laboratory (UCTEL) to Dr. Clayton H. Riddell (left) and Dr. N. Cournoyea (centre). Photo Credit: Breanne Reinfort.

Pictured Right: The Liquid Galaxy is an immersive visualization environment that uses Google Earth to virtually navigate around the Earth. Located outside the theatre, Liquid Galaxy is shown here as **David Mosscrop** (Operations Manager CEOS) "flies" along the Grand Canyon. Photo Credit: Jason Jorgenson.



Pictured Left: The Mooring Lab is a multipurpose space that can be used to host events such as the opening. However, it is particularly important for assembling, calibrating/testing and staging of field equipment. Previously much of this work took place in corridors. Here students are assembling equipment to be shipped to the **Amundsen**. This year 8,600 lbs (3,900 kg) of equipment was shipped from here to the **Amundsen**. Photo Credit: Jason Jorgenson.



Pictured Left: The theatre seats 50 and can be used for talks, to show informative documentaries, and hold dissertation defenses. Photo Credit: Jason Jorgenson.

Co-operative Education.

The Riddell Faculty offers a Co-operative Education Option to students registered in either the Major or Honours degree programs in Environmental Science, Environmental Studies, or Physical Geography. Co-op is an arrangement whereby students spend alternating periods in course work supplemented by 'real-world' experience in an employment situation. Co-op also enhances their networking opportunities, participation in conferences, and provides the foundation of skills and strategies to acquire employment after graduation.

Over the past 5 years, our Co-op program has placed more than 400 students into positions across the province of Manitoba. In this past year alone, our Co-op program has provided 75 work placements with more than 50 employers.

The University of Manitoba Cooperative Education Student of the Year Award recognizes students who demonstrate

outstanding personal and professional development through involvement in Co-op. Students from the Riddell Faculty have won the award for two consecutive years in the three-year history of the award.

Michelle Curry (2012 Recipient) graduated with the B.Sc. Physical Geography (Honours Co-op) and has since begun her Masters program to continue her work on lake breeze dynamics with **Dr. John Hanesiak**. Her Co-op experiences included assisting in Arctic research aboard the CCGS **Amundsen** and atmospheric research using radar data on lake breezes in Manitoba.

Marissa Borgford (2013 Recipient) graduated with the Bachelor of Environmental Studies (Honours Co-op) and has worked with Environment Canada and Atomic Energy of Canada. Marissa was also recognized

for her professional outreach with the Student Chapter of the Manitoba Environmental Industries Association especially through her development and delivery of the 4th Annual Environmental Career Expo held at the University of Manitoba in February, 2013.

Pictured (below left to right): Michelle Curry and Marissa Borgford. Photo credits: Mike Latschislaw.

Travel Study and Field Courses.

Many of our alumni attribute their passion, expertise, and success in their chosen profession to hands-on learning in the field. Our four Travel Study courses explore Baffin Island at the Pangnirtung Summer School, Banff, Alberta for Parks and Protected Areas Planning and Management, Churchill and the Manitoba Coastal Region, and Clearwater Manitoba for Living Rural Communities and Environments. Today the Riddell Faculty has numerous additional courses that also include field work. Since 2009, in total these have been taken by over 2,500 students with registrations growing by nearly 90%.

In-class field trips travel to locations closer to home ranging from parks and the Assiniboine Park Zoo, to quarries and mines, and downtown Winnipeg. Although generally short experiences these enhance the learning in individual courses. Longer field trips go further afield and explore locations in more detail. Faculty may also draw on local expertise allowing students to hear diverse points of view. Field courses may be in one location, such as the Starr Lake Field Station, or travel around such as the Severe Thunderstorms, Storm Chasing and Field Techniques course. This latter course is the only storm chasing course in Canada, and this year Global Television is traveling with the students and instructors and reporting back on their experiences each day on the evening news in Winnipeg. This year the Cooperative Education Option has also placed three students to assist in this field course.

Photo Credits: Shaun Gallagher.



Student Numbers.

In the ten year history of the Riddell Faculty, the University of Manitoba has awarded 1369 degrees to our students. Over the last five years of the Faculty alone, 957 students graduated with over 25% earning graduate degrees. The degrees created during the history of the Faculty (namely the Bachelor of Environmental Studies, the Bachelor of Science in Physical Geography, and the Bachelor of Science in Geological Science General) have resulted in 237 graduating students. Of all our undergraduate programs, graduating over 1,000 students in the ten years, 20% received honours degrees. Of our graduate programs nearly 350 students have graduated with nearly 20% receiving a Ph.D.

Pictured (left to right): Spring 2013 Graduates and Award Winners. V.E.

Barber Memorial Fellowships in Arctic Research Award recipients **Matthew Asplin** (Ph.D. candidate) for his research on "*Cyclone Forcing of Coupled Dynamic and Thermodynamic Processes in Arctic Sea Ice, and Across the Ocean-Sea Ice-Atmosphere Interface*" and **Alexander Komarov** (Ph.D. candidate) for his research on "*New methods for detecting dynamic and thermodynamic characteristics of sea ice from radar remote sensing*". **Dr. Brent Else** (Ph.D. in Geography), Governor's General Gold Medal recipient for outstanding achievement at the graduate level. **Allison Birch**, Student Affairs Participation Award, for maintaining high academic achievement while demonstrating exceptional leadership qualities in making a

significant voluntary contribution to the university community. **Marissa Borgford**, Co-operative Education Student Champion Award, for demonstrating outstanding personal and professional development through participation in a co-operative education option. **Lauren Eggie** (B.Sc. in Geological Sciences (Geology Hons.)) University of Manitoba Gold Medal for Highest Standing in the Riddell Faculty and recipient of the Mark G. Smerchanski Prize awarded to the student who has achieved the highest aggregate mark in courses offered by the Department of Geological Sciences. **Dr. Norman Halden**, Dean. Photo Credit: Jason Jorgenson.

The Riddell Faculty introduced its teaching awards in 2009 to recognize and celebrate our outstanding instructors. We are aware that facilitating student learning and success requires diverse activities that include graduate supervision and mentoring, supportive first year teaching, and innovative undergraduate instruction to name but a few. We also acknowledge that teaching provides valuable experience for our graduate students. The Award of Excellence for First Year Teaching, the Awards of Excellence for Undergraduate Teaching, and the Award of Excellence for Graduate Teaching have been presented a total of nine times. The Graduate Student Teaching Award has been presented twice to two of our graduate students who have since earned their Ph.D.s – **Dr. John Iacozza** (pictured below with Dean Dr. Norman Halden) in 2011 and **Dr. Janna Wilson** in 2012 (both Environment and Geography). The awards, a glass plaque set on a wood base, are created each year with a new design by **Jason Jorgenson** (Dean's Office) to reflect the Riddell Faculty brand.

The Riddell Faculty teaching awards are usually presented at our Spring Convocation lunch where we can celebrate other award recipients. In 2012, **Dr. Robert Elias** (Geological Sciences) was awarded the University of Manitoba's Dr. and Mrs. H. H. Saunderson Award for Excellence in Teaching. Teaching in the Department of Geological Sciences since 1988, he has received various teaching and research awards over the course of his career. In 2000, he and co-authors won the People's Choice Award at GeoCanada 2000 for their poster, "*The world's biggest trilobite: a giant among arthropods*". That same year, Guinness World Records gave Elias a certificate for discovering, with co-workers, the world's biggest trilobite. Then, in 2004, he

Teaching Awards.

and some colleagues won the University of Manitoba Outreach Award for their work on creating the Ed Leith Cretaceous Menagerie. In 2005, he received the Paleontological Research Institution's Gilbert Harris Award for excellence in systematic paleontology. To quote one of his students: "*He brought a passion for the subject of geology right from the first class until the final exam*".

In 2013, **Lisa Ford** (Environment and Geography) was awarded the Olive Beatrice Stanton Award for Teaching. Teaching in the Department of Environment and Geography since 2008, she has focused on enhancing the educational experience of geography students, particularly first-year students. In her short time as an instructor she has been nominated twice for the University 1 Excellence in Teaching Award, and in 2011 she received the Award of Excellence for Undergraduate Teaching. To quote one of her students: "*She definitely knows how young minds think and makes activities that will ensure you remember the concepts she goes over in class. Her teaching style will want you to never miss a class.*"

ONE planet
MANY perspectives



The Clayton H. Riddell Endowment Fund.

The Clayton H. Riddell Endowment Fund was established through the generous donation by **Dr. Clayton H. Riddell** of \$10 million in 2004. The Dean is responsible for the allocation of the funds, and an advisory committee meets once a year to advise the Dean. The funding areas are categorized in the Memorandum of Understanding. Since 2006/7 the Fund has allocated over \$2.3 million in the categories of long-term planning, grant leveraging, retention and recruitment, program and curriculum development, and scholarships and

awards. Long-term planning is the broadest category encompassing space renovation and development, equipment repair, Faculty promotion, outreach, support staff development, conference support, and the Dean's strategic initiative. Although scholarships and awards comprise just over 16% of the funds allocated, this represents 26 undergraduate scholarships, 53 graduate scholarships, and 18 additional awards for undergraduate and graduate theses, graduate student teaching, and student initiative awards. This category also encompasses matching the Vice-

President Research undergraduate research awards and the Aboriginal Issue Press scholarships, topping up NSERC graduate student awards, and student conference travel.

Regular readers of the Riddell Faculty Newsletter (this is the eleventh issue and previous issues are available online) will recognize the many initiatives, activities, and opportunities that the Riddell Endowment Fund has provided for our faculty, staff, and students.

The research enterprise of the University of Manitoba is a key element in our overall academic strategy serving Winnipeg, Manitoba, and the world. When we formed the Clayton H. Riddell Faculty of Environment, Earth, and Resources our intention was to make our new faculty a world-class research facility and to engage at the interface between people and the environment.

Research funding is an important factor in creating a research environment including research facilities, equipment, and supplies. Funding also facilitates the collection of critical field observations, communication of research results in publication, travel to conferences, and to communities who can use this information. Such research support funds research associates and technicians to enable data collection and analysis. Graduate students and post-doctoral fellows who benefit from funding add to the supply of specialized and highly skilled professionals and academics.

Research revenues from external sources in the Riddell Faculty have grown from over \$2 million in 2004, to \$9.3 million in 2010 and \$7.6 million in 2011. In 2010 and 2011 around \$200,000.00

Research Funding.

was generated (per full-time equivalent faculty member) compared to \$70,000 in 2004. Today in the Riddell Faculty, funding from NSERC (2011/12) is \$2.7 million surpassing total revenues in 2004. SSHRC and CIHR funding totals over \$700,000, and our ArcticNet Networks of Centres of Excellence (NCE) funding is close to \$2 million per year.

The successful competition for a Canada Excellence Research Chair (CERC) validated our ambitions to become world class. The CERC in Arctic geomicrobiology and climate change has generated a three-way partnership between our Centre for Earth Observation Science (CEOS), the Arctic Research Centre (ARC) at the University of Aarhus, Denmark and the Greenland Climate Research Centre (GCRC), Nuuk Greenland. This partnership brings together over 350 scientists, support staff, and students into a fully integrated Arctic Science Partnership (ASP). The first field programs under this research enterprise began in 2012.

Photo credit: Jason Jorgenson.

Distinguished Professor, Dr. David Barber.



On Tuesday May 28, 2103 at the University of Manitoba's Spring Convocation **Dr. David Barber** (Canada Research Chair in Arctic Systems Science, Director of the Centre for Earth Observation Science (CEOS), and Department of Environment and Geography) was awarded the title of Distinguished Professor. This is conferred by the University of Manitoba on academic staff members who have demonstrated outstanding distinction in research, scholarship, creative endeavours, professional service, and teaching. Up to three people may receive this honor each year, and not more than 20 professors may hold the title at one time.

After completing his Ph.D. at the University of Waterloo, Dr. David Barber returned to the University of Manitoba in 1993. He started the Centre for Earth Observation Science (CEOS) in 1994 with himself, one half-time technician, and two graduate students. In 2002, he received a Canada Research Chair in Arctic System Science. He continues as Director of CEOS and Associate Dean

(Research) in the Clayton H. Riddell Faculty of Environment, Earth, and Resources. Dr. Barber has extensive experience in the examination of the Arctic marine environment as a "system," and the effect climate change has on this system. He shares his experience with his students. To date, he has supervised to completion six honours theses, 18 M.Sc. theses, 17 Ph.D. dissertations, and nine post-doctoral fellowships. He currently supervises 11 graduate students, two post-doctoral fellows, and 14 research associates. He is a member and leader of many national and international research councils, and he currently leads a polar marine science group of over 100 people. He has published over 170 articles in the peer-reviewed literature and during the latest International Polar Year (IPY) in 2007, he led the world's largest IPY project — the Circumpolar Flaw Lead system study.

Pictured Left: Dr. David Barber. Photo credit: Ian McCausland.



Picturing the Planet.

As a regular feature "Picturing the Planet" brings inspiring and informative images taken by our students, staff, and faculty. For this special issue of the newsletter we wanted to celebrate the place we call home and while the Riddell Faculty travels to many places around the world, it is to Manitoba that we return. Commander Chris Hadfield took this image of Winnipeg from the International Space Station on April 4, 2013. He returned to Earth on May 13, 2013 following his five-month mission during which he gained international recognition for his frequent and creative explanations of life and science in space.

Photo Credit: Chris Hadfield by permission of the Canadian Space Agency.

