

# UNIVERSITY OF MANITOBA ResearchLIFE

SUMMER 2015 | VOLUME 2



## WATER FOR LIFE

A new generation of scientists  
partners for change

### DREAM LEADER

Entrepreneurship as a tool for empowerment

### TRUTH INSPIRES OUR FUTURE

The National Centre for Truth and Reconciliation

### IF THE RIVER IS ALIVE

Learning from new governance



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# MESSAGE

FROM THE VICE-PRESIDENT  
(RESEARCH AND INTERNATIONAL)



In this issue of Research Life we have highlighted some of the many areas of Indigenous research and community engagement taking place at the University of Manitoba.

Research on the most pressing issues facing Indigenous communities, is informed by First Nation, Métis and Inuit perspectives, and is developed in partnership with Indigenous communities. Fostering the inclusion of Indigenous perspectives in research, and advancing Indigenous research and scholarship have been identified as key goals in U of M's new strategic plan, *Taking Our Place*.

The U of M is committed to working with partners to make Manitoba the national centre for Indigenous education and research. We are honoured to have been chosen as the host of the National Centre for Truth and Reconciliation, and play a lead role in creating a place where all Canadians can learn about truths of experiences and wrongs of the past, and move forward toward reconciliation.

Our researchers engage with their work in ways that honour opportunities to improve the lives of Indigenous peoples locally, nationally and globally. They strive to increase community-based research and strengthen collaborations between Indigenous and non-Indigenous peoples as we work together on issues that affect us all.

—Digvir S. Jayas, PhD, PEng, PAg, FRSC

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# UNIVERSITY OF MANITOBA

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## ResearchLIFE

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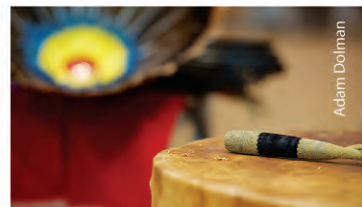
## INDIGENOUS AWARENESS WEEK

**ELDERS, KNOWLEDGE KEEPERS, ACADEMICS**, students and community members came together this past March to help answer questions about Treaties, what they once meant, what they mean today and how they will shape our future.

The week of presentations and discussions hosted in partnership with the Treaty Relations Commission of Manitoba, marked the inaugural Indigenous Awareness Week and exemplifies the U of M's commitment to Indigenous Achievement through relationship building and reconciliation with Indigenous peoples.

"Each of us has a role; each of us has a responsibility," said Deborah Young, executive lead, Indigenous Achievement. "Indigenous Awareness Week will start providing some of those tools; it's one step forward. This is part of it, building a consciousness in the university. And this is also what Treaties are all about — building a relationship."

For more information, or to watch videos of the sessions online, visit [umanitoba.ca/indigenous](http://umanitoba.ca/indigenous)





# ENVIRONMENTAL MONITORING & REMEDIATION

## CHEMISTRY PROFESSORS

Gregg Tomy and Jorg Stetefeld (Canada Research Chair in Structural Biology) are hard at work establishing the Centre for Oil and Gas Research and Development (COGRaD), which recently received \$2.4 million in funding from Western Economic Diversification Canada.




Gregg Tomy,  
Chemistry  
professor



Jorg Stetefeld,  
Canada Research  
Chair in Structural  
Biology

COGRaD, once operational, will be an internationally-accredited analytical centre in environmental monitoring and remediation services.

"This centre will establish the University of Manitoba in a new field of research and development that is an institutional priority: environmental sustainability," Digvir Jayas, the U of M's vice-president (research and international) told the Winnipeg Free Press.

The investment will be used to purchase highly specialized equipment which will allow collaboration with private industry on research and development, test samples from the environment and develop tools and techniques to assist oil and gas companies to meet existing environmental monitoring and remediation challenges. 



Shawn Clark


## COLLABORATIVE RESEARCH PARTNERS

THREE RESEARCH TEAMS FOCUSING ON THE IMPACTS of climate change and hydro-electric activities in the Hudson Bay system, the complex processes affecting ice formation on rivers, and better ways to protect and sustain the endangered Lake Sturgeon, received \$13 million in direct and in-kind funding from the Natural Sciences and Engineering Research Council of Canada (NSERC), and Manitoba Hydro.

"We have a long-standing collaborative relationship with the University that we look forward to continuing and enhancing through these projects," said Scott Thomson, President and CEO of Manitoba Hydro. "Hydro is pleased to partner with NSERC and the university to support research that enhances environmental protection and provides benefits to our customers and Canadians as a whole."

Distinguished Professor David Barber (environment & geography), Canada Research Chair in Arctic System Science, received \$9.14 million over four years for the Collaborative Research and Development project entitled "BaySys – Contributions of climate change and hydro-electric regulation to the variability and change of freshwater-marine coupling in the Hudson Bay system."

Gary Anderson (biological sciences) received \$2.15 million over five years for the NSERC/Manitoba Hydro Industrial Research Chair in Conservation Aquaculture of Lake Sturgeon (*Acipenser Fulvescens*).

Shawn Clark (civil engineering) received \$2.15 million over five years for the NSERC/Manitoba Hydro Industrial Research Chair in River Ice Engineering. 



David Barber,  
Environment &  
geography



Gary Anderson,  
Biological sciences



Shawn Clark,  
Civil engineering



## IMPROVING SYSTEMS




**FOUR PROJECTS FROM A RANGE OF DISCIPLINES** will take canola/rapeseed to the next level, assess high voltage insulation systems, address soil erosion and sedimentation, water turbulence and ice engineering research thanks to funding of \$1 million from the Canada Foundation for Innovation John E. Evans Leaders Fund.

Plant scientist Robert Duncan will develop high oil and high meal protein content canola/rapeseed cultivars.

Electrical and computer engineering professors Behzad Kordi, Derek Oliver, and Sherif Sherif will develop new and improved techniques for both online and offline condition monitoring of high voltage power systems.


Soil scientist David Lobb will be collaborating with Philip Owen from the University of Northern British Columbia to expand and enhance an innovative research and development program in soil erosion and sedimentation.

Mark Tachie (mechanical engineering) and Shawn Clark (civil engineering) are joining forces to accurately measure the 3D turbulence level in flowing water and airflows. 

## TWO AT THE TOP

**TRACY DAHL OF THE DESAUTELS FACULTY** of Music and Zahra Moussavi of the Faculty of Engineering have been named as Women's Executive Network's (WXN) 2014 Canada's Most Powerful Women: Top 100 Award Winners. The Top 100 Awards recognize Canada's strong, fearless female leaders who have become agents of change in reshaping Canadian organizations at the highest levels.

Canada's premiere coloratura soprano, Dahl has appeared throughout her career with the Metropolitan Opera, Canadian Opera Company, Teatro alla Scala (Milan) and the Théâtre du Châtelet (Paris), among many others. Dahl's ability to bring out the very best in her students has proven to be among the finest of her many accomplishments.

Moussavi holds a Canada Research Chair in Biomedical Engineering and is known for her research in two major diseases: Obstructive sleep apnea (OSA) and Alzheimer's. Her work has not only resulted in novel technologies, but are also directly applied and practiced for diagnosis and treatment. 



Tracy Dahl, Coloratura Soprano



Zahra Moussavi, Biomedical Engineer





# MANITOBA FIRST NATIONS CENTRE FOR ABORIGINAL HEALTH RESEARCH

BY CHELSÉE CURÉ

**M**ANITOBA IS THE CANADIAN province with the highest percentage of Indigenous people. There are nearly 150 thousand registered First Nations members who call Manitoba home, and the number is growing. There are approximately 100,000 Métis people currently living in Manitoba. Manitoba's population includes the largest number of Métis people per capita in Canada and the majority of them live in southern Manitoba. With growing populations, comes a growing need for health research and support.

The Manitoba First Nations Centre for Aboriginal Health Research (MFN CAHR) has been and continues to be a leader in its field on both national and international stages. This year, MFN CAHR celebrates thirty years at the U of M.

"We are so proud to be celebrating thirty years here at the university, the work done by our students and researchers expands far beyond our province's border and has a global impact on health research," says director Josée G. Lavoie.

Established in 1985, MFN CAHR was the first research unit in Canada to conduct community-based research into problems relevant to the health of First Nations and northern peoples.

Today, the centre collaborates with national and international programs to share knowledge of Indigenous health development. Their goal is to establish research networks that support the organization's aspirations and ensure further collaboration.

Largely supported through external funding, the centre now runs four core programs. The first is the MFN CAHR

Support Unit which provides research navigation support to its researcher members; second is the Mentorship Program which has 30 faculty mentors committed to supporting First Nations, Métis, and Inuit students interested in graduate work and health research.


Thirdly, the centre works to support new and established researchers in their programs and help the U of M keep its place as a leader in First Nations, Métis and Inuit health

**"We really pride ourselves on integrating scientific and traditional Indigenous approaches in our research."**

research. Finally, the centre will also help communicate and coordinate sponsored research within the field, to its members.

"We really pride ourselves on integrating scientific and traditional Indigenous approaches in our research. We want to ensure that the University's world-class researchers are able to continue collaborating with these communities in their efforts to promote healing, wellness and improved health services," says Lavoie.

Every year, the number of Indigenous people in Canada grows, as does the need for quality research and health information. MFN CAHR hopes to spend the next 30 years keeping its place at the forefront of research leaders and helping mentor future generations of First Nations, Métis, and Inuit students.

To learn more about MFN CAHR, visit [umanitoba.ca/centres/cahr](http://umanitoba.ca/centres/cahr) 

The above photo reflects items/symbols from other Indigenous cultures around the world that MFN CAHR collaborates with.



# CANADA IN THE WORLD TODAY

**T**HE EFFECTS OF GLOBALIZATION on what people need to know and learn, how people can communicate their understanding, and how governance practices can be adjusted to ensure continued social well-being are just some of the questions Distinguished Professor Diana Brydon, Director of the U of M's Centre for Globalization and Cultural Studies is exploring.

Brydon, Canada Research Chair (CRC) in Globalization and Cultural Studies, is an internationally recognized scholar in the fields of postcolonial literary and cultural studies. Her current research asks what students need to know to thrive in a global environment and how educational practices might decolonize to adapt to global times.


Attracted by the potential of a Tier 1 CRC in setting up and directing the Centre for Globalization and Cultural Studies, Brydon came to the University of Manitoba in 2006. Elected a Fellow of the Royal Society of Canada in 2008, Brydon has written four books, edited five others, and authored nearly 50 papers in refereed journals and more than 40 chapters for various books. Her work has been translated into Chinese, Polish, and Portuguese. Brydon's co-edited book *Renegotiating Community: Interdisciplinary Perspectives,*

*Global Contexts* reframes debates about community, globalization, and autonomy to show how communities are creating new forms of a livable globalization. *Crosstalk: Canadian and Global Imaginaries in Dialogue* asks how

readers negotiate meaning in contexts where norms of understanding diverge.

*Concurrences: Archives and Voices in Postcolonial Places*, recently submitted for peer review, extends these investigations through a collaboration with colleagues in Sweden.

*The Winnipeg Rh Institute Foundation* was established

in 1994. The objective of the Foundation is to support the advancement of knowledge in all fields, and it derives funds for this purpose from royalties arising from the sale of sermons and medicinal formulae. The purpose of the Dr. John M. Bowman Memorial Winnipeg Rh Institute Foundation Award is to recognize outstanding research accomplishments by established U of M faculty members. 

**Brydon's research asks what students need to know to thrive in a global environment and how educational practices might decolonize to adapt to global times.**



**Dr. Diana Brydon,**  
Recipient of the  
2014 Dr. John M.  
Bowman Memorial  
Winnipeg Rh  
Institute Foundation  
Award  
**photo:** Ian  
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# RH AWARDS

The Rh Awards were established in 1973 by the Winnipeg Rh Institute, now the Winnipeg Rh Institute Foundation, from funds set aside from the sale and production of medical formulae. These honours are given to academic staff members who are in the early stages of their careers and who display exceptional innovation, leadership and promise in their respective fields. Past winners have become internationally-known researchers, so this recognition of early success bodes well for our latest recipients. Each winner receives \$12,000 toward their research program. Typically, one award is given in each of the following areas: applied sciences, creative works, health sciences, humanities, interdisciplinary studies, natural sciences, and social sciences. This year's recipients are:



## APPLIED SCIENCES

**Barbara Sharanowski** (entomology) focuses on understanding the evolutionary history of Hymenoptera, a particularly parasitic wasp. Her work is applied to several problems in agriculture, working to develop sustainable approaches to crop pest management.



## APPLIED SCIENCES

**Tricia Stadnyk** (civil engineering) aspires to fill the gap in our understanding of large river basins and large (mesoscale) hydrological processes. Her research provides the tools to assist researchers, governments and regulatory bodies in evaluating these processes in northern, remote regions.



## HEALTH SCIENCES

**Tracie Afifi** (community health sciences) uses a public health approach to understand how the experiences of child maltreatment and problem gambling are associated with negative mental and physical health outcomes. Her research has informed the debate nationally and internationally on the use of physical punishment as a means of child discipline.



## INTERDISCIPLINARY

**Adolf K.Y. Ng** (supply chain management) has core research interest in highly applied areas such as transport management, climate change, ports and global supply chain development. He embraces an interdisciplinary approach, acting as a 'gateway' between different disciplines resulting in numerous global collaborations.



## NATURAL SCIENCES

**Christopher-John Mundy** (environment and geography) has developed new observational techniques in the sea ice environment and greatly advanced our understanding of the Arctic marine ecosystem. This includes recent pioneering research on the development of phytoplankton blooms that occur in the water column underneath the Arctic ice cover.




## SOCIAL SCIENCES

**Laura Funk** (sociology) focuses on issues of responsibility, support and care for older adults from a social science perspective. She is highlighting and reinvigorating the sociological understanding of care and the broader cultural and structural forces shaping this work.



## SOCIAL SCIENCES

**Royce Koop** (political studies) addresses questions that are fundamental to understanding the process of representational democracy. He also focuses on political parties and political communication with a goal to explore this and the democratic potential of new information communication technologies. 



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# INSIGHTS: DEBORAH G. YOUNG





**D**eborah G. Young joined the University of Manitoba in July 2011 as executive lead for Indigenous Achievement. She is a graduate of the University of Manitoba and holds a Bachelor of Social Work and Masters of Social Work in Policy, Administration and Evaluation.

She also has a Bachelor of Arts in Sociology from the University of Winnipeg. Deborah is a member of the Opaskwayak Cree Nation, Manitoba. She remains connected to the Opaskwayak Cree Nation through her large extended family, and to the Indigenous community both in Manitoba and nationally through an extensive network.

**THE EDUCATIONAL SUCCESS** of Indigenous peoples must be a priority for all academic institutions in Canada. Not only will improved educational outcomes result in better socio-economic conditions, they will also foster a skilled Indigenous workforce that will lead to economic prosperity in our province and Canada.

Unlike the non-Indigenous population, the First Nations, Métis and Inuit population is very young and it is growing at an outstanding rate. Yet the educational outcomes for Indigenous students are not where they should be. For a variety of reasons, many Indigenous students are not graduating from high school, which means transitioning into post-secondary institutions can be extremely challenging.

The U of M has made Indigenous Achievement an institutional priority and this special issue of *Research LIFE* is dedicated to Indigenous ways of knowing and research. These are extremely exciting times at the university as we move forward on a number of strategic commitments to attract and retain more Indigenous students, faculty and staff, to incorporate more Indigenous perspectives and knowledge within our program offerings, research, scholarly works and creative activities and to honour First Nations, Métis and Inuit traditions and cultures in our collective spaces.

Equally important to the university is ensuring that every student who attends our institution has an opportunity to learn about Indigenous histories, Treaties, the impact of residential schools, reconciliation and relationship building. It is only by learning about our collective history and walking together that we can begin to dismantle the impacts of colonization.

Academics can provide us with theoretical frameworks, research, and scholastic knowledge and skills to inform students and communities.

While the Elders and Traditional Knowledge Holders provide us with worldview teachings passed down to them from generation to generation. All perspectives are valid. Together the academic community, Elders, and Traditional

We also have a Strategic Enrolment Management Framework that has identified targets over a five and ten-year period for Indigenous undergraduate and graduate students.

From a research and academic perspective, our university is the home for many great Indigenous talents: we are the home of one of the oldest departments of Native Studies

**“THESE ARE EXTREMELY EXCITING TIMES AT THE UNIVERSITY AS WE MOVE FORWARD ON A NUMBER OF STRATEGIC COMMITMENTS TO ATTRACT AND RETAIN MORE INDIGENOUS STUDENTS, FACULTY AND STAFF, TO INCORPORATE MORE INDIGENOUS PERSPECTIVES AND KNOWLEDGE WITHIN OUR PROGRAM OFFERINGS RESEARCH, SCHOLARLY WORKS AND CREATIVE ACTIVITIES...”**

Knowledge Holders can formulate a symbiotic relationship that will eventually lead to a decolonized institution.

Of course the most important component of our institution is the students. They are the future leaders and the tools, skills and knowledge universities and colleges equip them with will lay the path for generations to come.

The U of M is currently undertaking a number of initiatives to advance Indigenous Achievement:

In November 2014, we released our new strategic plan – “Taking Our Place.” Indigenous Achievement remains an institutional priority, and it is interwoven and integrated throughout all of the other priorities. We have the “Pathways to Indigenous Achievement” framework that looks at four areas: Supporting Students; Building Partnerships and Supporting Communities; Sharing Indigenous Knowledge and Research; and Celebrating First Nations, Métis and Inuit Successes.

in Canada and the National Centre for Truth and Reconciliation, and we are leading discussions on water, human rights, and Indigenous health, to the name a few.

We acknowledge Treaty and Métis lands at every major university event, and at convocation we honour the graduating class with a traditional drum song. Our university has an annual graduation powwow that celebrates all of our Indigenous graduates. The U of M demonstrates our commitment to Indigenous students through these culturally affirming statements and ceremonies.

For me – when I think about decolonization and what it means for our university – I look at all of the various initiatives we are currently undertaking, and I would say that we are – in fact – decolonizing. We are only at the beginning of the path and much work still needs to be done but at least we are on the path, and I believe the future is bright for all of us. ■



# WATER FOR LIFE

BY HELEN FALDING





# A NEW GENERATION OF SCIENTISTS PARTNERS FOR CHANGE

Sun is sparkling on the water, river otters are playing nearby and the cooler is packed tight with sample bottles. It's a fine day to be a scientist-in-training with the U of M's CREATE H2O program, where students partner with First Nations across Manitoba and Ontario to improve water and sanitation security.

**G**

## **GRADUATE STUDENT JOHANNA**

Theroux banters with Norway House public health worker Carmen Anderson and guide Ken Budd as they mix chemicals from their kit with river water.

"We have had such good luck with the people in the community being incredibly helpful," Theroux said. "You

need that local knowledge to get anything done."

Achieving the human right to clean drinking water and safe wastewater disposal is a struggle in many parts of the world – from developing countries to Detroit, where residents complained to the United Nations last year after having their water service cut off. In Canada, drinking water security is mainly an issue in First Nations, with one in five facing tap water unfit to drink. Thousands of First Nation homes don't even have plumbing – mainly in Manitoba and

Northwestern Ontario. Bringing drinking water and wastewater infrastructure for all First Nations up to safe standards could cost almost \$5 billion – unless innovators such as H2O engineering and science students discover more efficient methods.

The \$3-million research-training program funded mainly by the Natural Sciences and Engineering Research Council of Canada has attracted Indigenous students interested in working with their own communities and other trainees such as Theroux who recognize the importance of learning from First Nations.

"Everybody seems really passionate about environmental issues... as opposed to a big city where you don't get those conversations happening as much," she said.

A previous generation of engineering and environmental consultants often lacked the social skills and cultural awareness to work effectively with First Nation communities but the H2O program aims to train a different kind of professional.



**Johanna Theroux,**

a master's student, collects sediment samples from the Jack River near Norway House.

**photo:** Vanja Karpisek

PREVIOUS PAGE:

**Jonathan Challis,**

PhD student in Chemistry, collecting water samples.





The broadly multidisciplinary program exposes trainees to experts in law, economics and even psychology related to drinking water issues, partly through collaboration with a related social science project led by law Prof. Karen Busby. But it's the Cree people who co-designed Theroux's research project in Northern Manitoba who are having the greatest impact on her education.

"They've been phenomenal," the graduate student said. Her advice to new trainees is to spend time in the First Nation communities where they're working before starting research. It's important to make a variety of connections so the project will run smoothly even in the face of turnover amongst band staff or council members.

**N**ORWAY HOUSE COUNCILLOR Gilbert Fredette drove more than eight hours south to Winnipeg to speak at the first H2O student conference. His community lies at the mouth of the Nelson River, where every pollutant in Lake Winnipeg funnels past on its way to Hudson Bay.

"I'm very grateful to hear all the work that's being done. I just want everybody to know that, as leaders, we are behind the researchers who are making these things public," Fredette said.



Councillor Gilbert Fredette and graduate student Johanna Theroux discuss Norway House research at the first University of Manitoba water rights conference. **photo:** Jared Wheeler

Theroux says the river from which Norway House draws its drinking water had decent water quality in 2014 when river levels were high and hydro dams were wide open. She will investigate whether the water becomes murkier with lower water levels and will trace where the suspended sediment comes from. Communities count on independent university researchers to provide unbiased results.

**"I'M VERY GRATEFUL TO HEAR ALL THE WORK THAT'S BEING DONE. I JUST WANT EVERYBODY TO KNOW THAT, AS LEADERS, WE ARE BEHIND THE RESEARCHERS WHO ARE MAKING THESE THINGS PUBLIC."**

A few hundred kilometres east of Norway House in a community accessible only by plane and boat or ice road, another H2O graduate student is investigating how waste disposal is affecting drinking water quality. Ahmed Oyegunle was baffled to find people living in conditions more familiar in his Nigerian homeland. "When it comes to seeing those situations in a country that is supposed to be developed, it's so disheartening."

TOP: CREATE H2O director Dr. Annemieke Farenhorst, Waylon Meekis and Garden Hill Elder Russell Harper collect water samples from Island Lake, Manitoba. **photo:** Elizabeth Harries



**“TO HEAR PERSONAL EXPERIENCES FROM MANY FIRST NATIONS PEOPLE ABOUT THEIR LOCAL WATER SUPPLY (OR LACK THEREOF) ... MAKES ME WANT TO WORK EVEN HARDER TO BRING MORE COMMUNITIES IN MANITOBA CLEAN WATER.”**

He said abandoned vehicles and a waste disposal site close to the lake are risky for the local drinking water supply, so he will help the community develop a waste disposal plan and try to access funding for cleanup.

He is excited about what the H2O program is doing for his budding career by improving his communication skills, helping him access specialized workshops and encouraging him to collaborate with people from so many disciplines and cultural backgrounds. “It brings people together in order to solve a problem.”

The impact of each H2O research project might seem like a drop in the bucket compared to the size of the problem but with so many people involved, the drops are starting to add up in a way students find satisfying.

“To hear personal experiences from many First Nations people about their local water supply (or lack thereof) ... makes me want to work even harder to bring more communities in Manitoba clean water,” engineering graduate student Charles Goss said.

Cultural education that is key to this training program can also be fun. Oyegunle went ice fishing and attended



his first powwow while living in Wasagamack for weeks at a time. PhD student Jonathan Challis found one of his research trips to Norway House coincided with York Boat Days, where he watched the races and ate pickerel, bannock and moose stew.

The cultural exchange flows in many directions. PhD student Geethani Eragoda Arachchilage, who is Indigenous to her home country of Sri Lanka, brought small, carved elephants as gifts when she visited First Nations to test drinking water for bacteria. And trainees from different countries enjoy expanding their skills by helping out on each other's research projects.

When he's not eating bannock, Challis and his supervisor Mark Hanson install passive samplers that measure how effective Norway House's new wastewater treatment plant is at reducing contamination before water is released back into the river system. So far, it looks like the plant is removing most of the nutrients that can cause algal blooms but the scientists are still working on results for emerging contaminants that treatment plants were never designed to address, such as pharmaceuticals and antibiotic resistance genes.

TOP: Michael Anderson and Brennan Manoakeesick from Manitoba Keewatinowik Okimakanak, CREATE H2O research partners.  
**photo:** Ian McCausland

BOTTOM: Nora Whiteway helps master's student Ahmed Oyegunle with research in Wasagamack.  
**photo:** Zackeus Harper





A team of professors, including Ayush Kumar, is supervising other H2O trainees who use cutting-edge DNA and RNA techniques to assess drinking water safety. They are comparing homes with water holding tanks to those with piped water, while tackling scientific challenges such as distinguishing between live and harmless dead bacteria and tracking the spread of antibiotic resistance. Kumar's newest trainee is Taylor Morriseau, a member of Peguis First Nation completing a double honours degree in microbiology and genetics.

**M**EANWHILE, Qiuyan Yuan is partnering with Aboriginal engineering firm BearPaw to design simple in-home ultraviolet drinking water treatment devices that might help in communities like Shoal Lake, Ontario, where there is no water treatment plant.

CREATE H2O director Annemieke Farenhorst, and professor of soil science in the Faculty of Agricultural and Food Sciences, is especially excited about projects like these that have the potential to improve health in communities with poor water service.


**"I TEAMED UP WITH THE UNIVERSITY'S CENTRE FOR HUMAN RIGHTS RESEARCH TO WRITE THE ORIGINAL GRANT PROPOSAL BECAUSE I WAS MOVED BY NEWSPAPER STORIES IN 2010 THAT EXPOSED SERIOUS DRINKING WATER PROBLEMS IN SOME MANITOBA FIRST NATIONS."**



PhD student Jonathan Challis gets ready to deploy a passive sampler that measures wastewater quality over the course of several weeks.  
**photo:** Mark Hanson

"I teamed up with the university's Centre for Human Rights Research to write the original grant proposal because I was moved by newspaper stories in 2010 that exposed serious drinking water problems in some Manitoba First Nations," she said. The centre now houses the H2O program co-ordinator.

Shoal Lake has been in the news more recently as residents point out the irony of locating a national human rights museum in Winnipeg. The city draws its drinking water from their lake, while Shoal Lake residents are forced to bring in bottled water.

Other H2O research projects include watershed planning in advance of northern industrial development, preventing the formation of dangerous chlorine byproducts and testing better ways to treat sewage in cold climates. Student internships are underway this summer with a consulting firm and non-profit organizations. More details on the program are available at [create-h2o.ca](http://create-h2o.ca). 



Bonnie Nepinak (left) helped H2O students Ruidong Mi (centre) and Geethani Arachchilage sample drinking water in Pine Creek.  
**photo:** Vanja Karpisek



## CREATE H2O PROGRAM

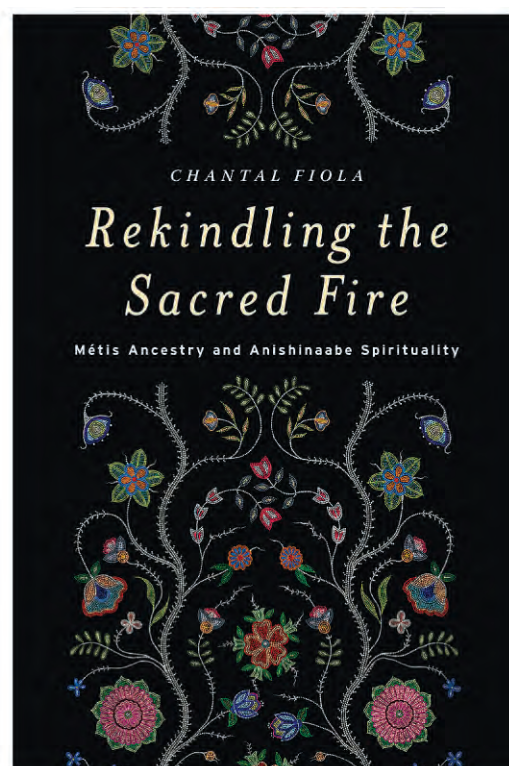
Trainees: 13 graduate students, 17 undergraduate students and 2 postdoctoral fellows have joined the CREATE H2O program since it started in 2013. About a third of those trainees are Indigenous. The trainees are supervised by 18 professors from the University of Manitoba, Trent University and University College of the North. The program is currently funded until 2019.



### Getting involved:

H2O co-ordinator Wendy Ross is the first point of contact for many of the communities and students who want to get involved in the H2O program. She is a citizen of Pimicikamak Cree Nation and has a master's degree in Native studies. You can reach her at Room 442, Robson Hall, University of Manitoba 204-474-8822 h2oadmin@umanitoba.ca

## REKINDLING THE SACRED FIRE



CHANTAL FIOLA (U of M Press, 2015)

**WHY DON'T MORE MÉTIS** people go to traditional ceremonies? How does going to ceremonies impact Métis identity? In *Rekindling the Sacred Fire*, Chantal Fiola investigates the relationship between Red River Métis ancestry, Anishinaabe spirituality, and identity, bringing into focus the ongoing historical impacts of colonization upon Métis relationships with spirituality on the Canadian prairies. Using a methodology rooted in Anishinaabe knowledge and principles along with select Euro-Canadian research practices and tools, Fiola's work is a model for INDIGENIZED research. Fiola's interviews of people with Métis ancestry, or an historic familial connection to the Red River Métis,



**Chantal Fiola** is Métis Anishinaabe-Kwe from the Red River region of Manitoba. She teaches Native studies at the University of Manitoba.

who participate in Anishinaabe ceremonies, shares stories about family history, self-identification, and their relationships with Aboriginal and Euro-Canadian cultures and spiritualities. This study seeks to understand the historical suppression

**"Rekindling the Sacred Fire provides a marvelous example and model of INDIGENIZED research."**

— JULIE PELLETIER, Chair of Indigenous Studies at the University of Winnipeg

of Anishinaabe spirituality among the Métis and its more recent reconnection that breaks down the colonial divisions between their cultures. To view a list of U of M authors and their published books visit [researchlife.ca](http://researchlife.ca)



# HONOURING THE SACRED





# TRUST



**A** historic gathering took place recently in Ottawa, and the dialogue that continues to flow out of it will dramatically shape the future of our country. The Truth and Reconciliation Commission of Canada (TRC) held its closing ceremonies May 31-June 3, with messages of healing, hope, respect and reconciliation.

**THE WORK UNDERTAKEN BY THE TRC OVER THE PAST SIX YEARS,** listening to Survivors, communities and others affected by the Residential School system, has culminated in a collection of statements, documents and other materials that will now form the heart of the National Centre for Truth and Reconciliation (NCTR) at the University of Manitoba.

The massive undertaking by the TRC is a significant step on the journey to reconciliation, however there is still much to be done. This journey belongs to all Canadians and is far from over. In many ways, the journey is just beginning.

**The Bentwood Box:** Carved by Coast Salish artist Luke Marston, the TRC Bentwood Box is a lasting tribute to all Indian Residential School Survivors. The box travelled with the TRC to all of its official events.

Fred Cattroll





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1. LEFT TO RIGHT: Elder Gerry Saddleback and Wab Kinew (with NCTR Governing Circle member Eugene Arcand and U of M President David Barnard President in the background) singing a traditional Cree song for the newly born child during the NCTR announcement at the TRC's closing events.

2. The ceremonial close of the TRC at Rideau Hall with leaders of the United, Anglican and Catholic churches with Prime Minister Stephen Harper, Terry Audla, President of the ITK and National Chief Perry Bellegarde of the AFN. His Excellency the Governor General of Canada David Johnston in the foreground.

3. THE WALK: 12,000 gather for the Walk for Reconciliation on Sunday May 31 in Ottawa.

4. Stephen Kakfwi, former Premier of the Northwest Territories, at closing ceremonies of the TRC.

On June 21, 2013, National Aboriginal Day, the TRC and the U of M joined hands with communities across Canada in the signing of the historic agreement entrusting the U of M to host the NCTR. Now, with the TRC having completed its work, the Sacred Trust to create a place of learning and dialogue where the truths of Survivors and their experiences are honoured and kept safe for future generations, will be entrusted to the NCTR.

**R**Y MORAN, DIRECTOR OF THE CENTRE, along with staff and student archivist interns, are preparing to take on this responsibility and the eventual opening of the NCTR. Databases and websites are being developed to ensure that Survivors, their families, researchers, students and the general public have access to the materials, so that the history and legacy of the Residential School system are never forgotten.

"Despite the hard truths contained in the records, the work of reconciliation is one inherently about hope," says Moran. "Hope for a brighter future, hope for a more just and equal society, and hope for a country where Indigenous cultures thrive, are welcomed and honoured for the gifts they contain. These records will actually become agents of change in and of themselves, helping propel us forward on the path of reconciliation."

NCTR staff will be reaching out to communities across the country to engage them in dialogue about how the centre can best serve them, and will also be collaborating with NCTR partner organizations to create the broadest possible network and reach across the country.

**"BY WORKING TOGETHER WITH COMMUNITY MEMBERS, PARTNERS OF THE CENTRE, AND WITH THE GUIDANCE OF THE GOVERNING CIRCLE AND SURVIVORS CIRCLE, THE NCTR WILL BE A DYNAMIC, LIVING ESTABLISHMENT- CANADA'S INDIGENOUS ARCHIVE."**

With collaborative archival, academic and creative excellence, the NCTR will be ever-growing – a gateway to a mandate that extends beyond Residential Schools.

"There will be many more issues to tackle as we continue down the road," says Moran, "and by working together with community members, partners of the centre, and with the guidance of the Governing Circle and Survivors Circle, the NCTR will be a dynamic, living establishment – Canada's Indigenous archive."






5. Photos of participants in the TRC closing ceremonies.

6. Elder Evelyn Commanda Dewache leading the opening prayer of the ceremonial close of the TRC at Rideau Hall with Their Excellencies the Right Honourable David Johnston, Governor General of Canada, and Mrs. Sharon Johnston. **photos:** Fred Cattroll

The centre plays a significant role in furthering the U of M's commitment to working with partners to make Manitoba the national centre for Indigenous education and research – and a large step was recently taken on that path. In May, the U of M announced a \$1 million gift from TD Bank Group to provide financial support including equipment and training for up to 76 student interns over the next 10 years. The student interns will work on preparing, reviewing and readying materials collected by the TRC. This support will also play a unique role in connecting Indigenous interns with their own history.

The NCTR plans to open once the transfer of archives and materials from the TRC has taken place. "This is a complicated process," notes Moran, "and we want to ensure that it is done right, not just in terms of the technological and archival processes but also in honouring the spiritual core that these statements, documents and materials are for the centre."

The opening of the NCTR will be another historic event on this journey of reconciliation that we are all on together. It will provide us opportunities to learn from our past, to learn from one another, and leave a legacy of mutual respect and understanding for future generations of Canadians. It will be a place where we can find courage, meet truth and build a brighter future together. 



## National Centre for Truth and Reconciliation

UNIVERSITY OF MANITOBA

**"THE TRUTH OF OUR COMMON EXPERIENCES WILL HELP SET OUR SPIRITS FREE AND PAVE THE WAY TO RECONCILIATION."** –TRC website

This statement was foundational to the development of a logo for the National Centre for Truth and Reconciliation. The NCTR recently worked with Brent Morrisseau at McKim Communications Group to create a visual identity for the Centre that encompasses and reflects all that the centre is to Survivors and their families, to students, educators and researchers, and to all Canadians.


"We asked ourselves: What does reconciliation look like?" said creative lead on the project, Brent Morrisseau. His thoughtful and creative approach to designing the logo was grounded in a personal connection, with both of Morrisseau's parents being Residential School Survivors.

Morrisseau found the work particularly meaningful and rewarding, especially when he presented it to the centre's Governing Circle, where an Elder told him that in the logo, "I see myself taking care of myself."

"I am honoured to have a part in creating this identity, what it means, and what it means to other people," said Morrisseau. "You want people to connect with it emotionally. If it evokes that, and inspires folks to search for or achieve reconciliation – that's all you can hope for."

**CIRCLE** Aboriginal people see rich symbolic meaning in the circle. The outer circle in this design is divided into four parts. This could represent the physical space of the NCTR. The centre houses precious archival materials and has a vigilant, yet dynamic spirit of understanding making it both secure and accessible. While the quadrants have specific meaning in the case of the Medicine Wheel, we can apply meaning to the quadrants as they relate to the story of the NCTR: the NCTR's primary goal is reconciliation; these quadrants can represent the First Nations, Inuit, Métis, and the non-Indigenous peoples of Canada coming together in harmony.

**FIRE** In the centre of the logo there is a fire. This is a nod to the seven fires that went before it in the TRC logo. It's as if those seven fires have combined into one fire. As it sheds light on the past, it also lights the path forward. As such, it acts as a lasting witness and a beacon of hope for a brighter future. When you peer into this fire you see things differently. You see the past more clearly and a vision of what the future could be. You gain a new perspective and your view of the world is transformed. The concept of this is brought to life by using the double image of a fire made up of two birds.

**BIRDS** The two birds that form the fire have more than one meaning, depending on the viewer. One can see truth giving birth to reconciliation: a new relationship between Indigenous and non-Indigenous Canadians. They can also represent the restored bond between parent and child: the spiritual, cultural and intellectual knowledge that must always pass between generations. This strong, emotive imagery speaks to healing for the child taken, and for the parent left behind. The birds also can be seen as eagles or thunderbirds for First Nations and Métis or as falcons or ravens for Inuit. In any case, these birds, which also double as a burning fire, remind us that the truth of our common experiences will help set our spirits free and pave the way to reconciliation. 



# DREAM LEADER

BY RYAN MCBRIDE



**F**OR ASPER MBA STUDENT Kathleen BlueSky, entrepreneurship means “being the leader of my own dreams.” BlueSky is already living her dream of helping First Nations communities, organizations, and individuals pursue *their* dreams successfully. Over the past seven years, she’s provided planning, development, and capacity building support to several communities through her company, Seven Feathers Consulting. She recently helped Pinaymootang First Nation complete a process that made theirs the *first* First Nation community health centre in Manitoba to be accredited by Accreditation Canada. Projects like these, she says, are “the most satisfying work in all my professional experience.”

Two years ago, she decided to enhance that experience with an MBA. Her goal was to develop her business management and leadership skills. “Our communities have many different leaders, and I wanted to be able to reach out to those people so they could become facilitators of empowerment within their Nations,” she explains.

In addition to making her a stronger leader, BlueSky says the Asper MBA has opened doors for her to pursue

**“Care about people and be the best at what you do. Whether it’s for financial profit or social profit, the benefits reach every one of us.”**

entrepreneurship and innovation from exciting new directions. A Business Venture Analysis class project challenged her and two teammates to commercialize a revolutionary technology developed by U of M computer science researchers. The company she and her teammates proposed –

Allview Informatics – offers analytic software designed to help retailers improve customer experience.

“Our product will benefit retailers by tapping into a database that already exists but isn’t being used,” BlueSky explains. “Ninety-eight per cent of video footage from in-store security cameras is not seen. Our product allows retailers to see everything they want to see and make operational decisions based on the robust data produced.”

BlueSky contributed to the product’s design, and to the business plan’s market research and sales strategy. This January, Allview Informatics took first place for best pitch at the Brown-Forman Cardinal Challenge, a major business plan competition in Louisville, Kentucky. “We attracted the attention of corporate and angel investors. Allview is now in the pilot phase of launching the business, and our team is in discussions right now about the next step for our company.”

The most important lesson she’s learned from both sides of her experience is that entrepreneurship is ultimately a tool for empowering herself and the communities she serves. “Care about people and be the best at what you do. Whether it’s for financial profit or social profit, the benefits reach every one of us.” ■

**Kathleen BlueSky**, a student entrepreneur is of Cree and Ojibway descent from the Nisichawayasihk Cree Nation and Pine Creek First Nation. She was born and raised in Northern Manitoba.





# IF THE RIVER IS ALIVE

## Learning from New Governance

BY SHERRY BOUDREAU

**'SURE THERE IS ENOUGH WATER** in the stream ... we just have to desalinate the ocean and truck it to the top'. Imagine my horror as this thought was communicated by the guy who ensured our community got its drinking water. It was perplexing to me that the local river that I played in as a child and where I discovered so many fish and frogs was, to someone else, just a surface water downpipe. This was an eye-opening concept that I heard while doing my masters research. Since then I have wondered "how do people learn the difference and importance of a river over that of simply the water?" Well, now guardianship for the Whanganui River in New Zealand, enabled by the Tūtohu Whakatupua Agreement (TWA), is set up to manage it as *a living being*.


The 2009 United Nations 3rd report on water states that water has a role as a "prime environmental agent." The reasons for this include the fact that water is linked both to food supply and energy development and thus is ultimately a fundamental linkage for the global economy. This perspective, a very human centred focus, is also reflected in the ideology of sustainability – adapted for water this involves ensuring there is enough clean water available to satisfy the needs of the present without compromising the needs of future generations *or other species*. In this, would the river be a species?

The Rio Grande, which translated means *big river*, now has but a trickle of water at its final destination in the Gulf of Mexico. Not so *Grande* anymore. Drip by drip, draw by draw, lawn by lawn the river is dying. There is speculation that several civilizations that had expanded due to their capacity to build water channeling infrastructure have as a consequence of doing so ruined the capacity for the water to recharge.

The waters became less and less and then the rivers were no longer rivers. What if today we had to manage ourselves so that the river itself was the priority for life? That the Whanganui River now has a right of personhood presents an interesting example for us to rethink our actions – the drips, the draws, the lawns.

What I hope to understand in the culmination of my research are the factors that support shifts of thinking from water to river. I am looking forward to asking those that have championed the TWA agreement what social learning was important. My wonder for the river started as a child with the frogs and the fish. They were what a river is about. It is my hope that understanding how adults learn about the river, not just the water, will help to re-introduce that wonder.

**"What I hope to understand in the culmination of my research are the factors that support shifts of thinking from water to river."**

**BIO** - Having finished her first year in the PhD program at the Natural Resources Institute, Sherry Boudreau comes to Manitoba from British Columbia. She is a fisherman's daughter who finished her Masters and Bachelors of Science at the University of British Columbia. Having worked 14 years with Environment Canada as an advisor and facilitator she has strived to enable connections and collaborations. This educational endeavor is inspired by the love and support that she receives from all her family and from her community - the Sechelt Nation. 

**Sherry Boudreau**  
a recipient of  
the fellowship  
PhD Studies  
for Aboriginal  
Scholars (PSAS).



# IN IT FOR THE



Dan Gwozdz





BY MARSHALL WIEBE

# LEADING THE CHARGE FOR BETTER HEALTH FOR INDIGENOUS YOUTH

For Jon McGavock, the connection between exercise and lifelong wellbeing is a personal one and a source of his passion for diabetes and obesity research.

# M

**CGAVOCK, AN** associate professor of pediatrics and child health in the College of Medicine was recently awarded a Canadian Institutes of Health Research (CIHR) Applied Research Chair in Resilience and Obesity.

He is a long distance runner who will be competing in his first marathon this year in Ottawa. The 40-year-old began running when he was ten, eventually running for Sisler High School [in Winnipeg's North End] and later becoming a member of the University of Alberta cross-country team.

According to McGavock, running not only informs his research, it is also a key to his own personal mental health.

"Juggling all of these different projects can be stressful at times, but going out for a run is the

best way to deal with a lot of the issues that come up," he says. "I don't worry about what the run is going to do for my body. I think of how it's going to make me feel mentally."

McGavock, also a research scientist located at the Children's Hospital Research Institute of Manitoba, traces his interest in diabetes research back to his undergraduate days.

"I was interested in exercise and physiology, so I was looking for conditions where exercise would have the biggest impact and diabetes came out the clear winner," says McGavock who completed two post-doctoral fellowships and holds a PhD in Physical Education (Alberta), MA in Kinesiology (McGill), and Bachelor of Physical Education (U of M).

After being invited to work with pediatric endocrinologist Heather Dean, at her clinic at Children's Hospital, McGavock observed a gap between what he'd been taught in terms of the prevention and management of diabetes and the reality of the barriers facing the young patients he was seeing every day.



**McGavock,** an associate professor of pediatrics and child health in the College of Medicine





At this point McGavock began to examine what was missing when it came to diabetes prevention and management, particularly with Indigenous youth.

“With our current medical model, we teach the disease but we don’t always teach the factors that patients are facing,” he says.

One of the most underappreciated barriers Indigenous youth face is adversity, which can manifest itself in different ways.

**F**IRST AND FOREMOST, there’s transgenerational stress with youth living with parents and grandparents that have lived through residential schools and have suffered through colonization. Another big issue is poverty and food insecurity,” McGavock says. “On a mental health level, these youth are isolated. Not only geographically, but youth who are overweight and living with diabetes are often bullied and isolated within their schools. When young students come into conventional treatment and prevention programs it just doesn’t resonate with them because weight loss or blood glucose control are not top priorities for them.”

### “MANITOBA IS LEADING THE CHARGE IN INDIGENOUS HEALTH RESEARCH IN YOUTH AT THE COLLEGE OF MEDICINE.”

That’s where the work of McGavock’s applied research chair seeks to develop a theoretical framework that moves away from simple diet and exercise and focuses on the issues that are relevant to young people,

particularly resilience. The chair will focus on the area of resilience to promote strong, independent youth that over the long run will combat obesity and type 2 diabetes.

The initial –model for McGavock’s research outlook was formed when he was invited to Garden Hill First Nation by Larry Wood, the local Aboriginal Diabetes Initiative worker. Wood’s work is challenging as his community suffers from a level of type 2 diabetes in youth that’s significantly higher than the general population.

While there he found that the children, despite the adversity they face, were very resilient and that was where he decided to focus his research.

“The first time you go into a grade four classroom in a remote northern community, the kids are exactly the same as they would be in Tuxedo or River Heights,” he says. “They want to learn, they want to get involved in things and they love to play and be happy. That was when we developed this program to focus on the resilience and on the strengths of youth, rather than on the deficits,” he says.

To capitalize on that resiliency McGavock worked in consultation with Larry Wood and community stakeholders to implement an Aboriginal Youth Mentorship Program, an after-school initiative that provides physical activity, healthy snacks and games for elementary school children and is delivered by high school students. The model, originally developed by colleagues in the Faculty of Kinesiology and





Recreation Management Joannie Halas and Amy Carpenter—Rec and Read—is guided by a theoretical framework developed by Martin Brokenleg called the Circle of Courage, a framework consisting of four elements: belonging, independence, mastery and generosity.

Since its inception, the Rec and Read program has been adopted by four more communities across Manitoba with over 300 youth participating.

**"I AM STANDING ON THE SHOULDERS OF GIANTS AND FOLLOWING A CLEAR PATH SET BY LEADERS IN THIS AREA. NONE OF THIS WOULD HAVE BEEN POSSIBLE WITHOUT THE WORK THAT'S ALREADY BEEN DONE BY THE LEADING MANITOBA SCIENTISTS AND INDIGENOUS SCHOLARS THAT CAME BEFORE."**

"The success of this program would be making it available to any Indigenous child in any region in Canada and support their goals to wellbeing and a healthy life."

Recently, Research Manitoba announced \$2.5 million in funding for DEVOTION, a new research network in Manitoba focused on the developmental origins of diseases, led by McGavock and colleague Andrew Halayko. This new network will focus on improving health outcomes among Manitoba's children and youth through transdisciplinary work between scientists, policy makers and community partners.

The DEVOTION network will bring together clinical and basic researchers from multiple disciplines to create a team that will work together to unravel

the early life determinants of chronic disease in children.

"Some kids get a chronic disease and others don't," McGavock says. "We're asking what we can do in the early years to prevent that from happening."

DEVOTION also includes an advisory stakeholder group consisting of Indigenous community members and organizations, policy makers and health care professionals that will guide the research program.

"That's really an important piece," McGavock says. "The research of DEVOTION is going to be driven by the needs of community members."

Collaboration plays a significant role in McGavock's work and he is quick to credit the many mentors and health professionals who have come before him to make his work possible.

"Manitoba is leading the charge in Indigenous health research in youth," he says, mentioning the pioneering work of professors Heather Dean, Patricia Martens, Sharon Bruce, Barry Lavallee and Catherine Cook in the College of Medicine.

"I am standing on the shoulders of giants and following a clear path set by leaders in this area. None of this would have been possible without the work that's already been done by the leading Manitoba scientists and Indigenous scholars that came before. They've made it possible for someone like me to come in and do this kind of work." ■





# MANITOBA FIRST NATIONS SCIENCE FAIR

**M**ORE THAN 400 STUDENTS from Grades 4 to 12 filled Max Bell Centre on March 11 and 12 as part of the Manitoba First Nations Science Fair. Students from 35 Manitoba First Nations operated schools took part in this 13th annual event, competing within Youth Science Canada standards for gold, silver, and bronze medallions of excellence in science.

"The Manitoba First Nations Science Fair promotes science education and achievement in First Nations schools," says Lorne Keeper, executive director of Manitoba First Nations Education Resource Centre Inc., the event host. "With over 400 student participants each year, it's one of the fastest growing regional science fairs in Canada. We partner with the University of Manitoba to offer a science fair that often influences students to attend university."

The fair is designed to provide extended opportunities for students of First Nations schools to become engaged, and to excel, in science.

"We are thrilled to be hosting the First Nations Science Fair at the University of Manitoba," says Deborah Young,

Executive Lead for Indigenous Achievement at the U of M. "Engaging Indigenous youth in scientific enquiry is vital to the health and well-being of our communities and this province, and we are honoured to welcome

**"With over 400 student participants each year, it's one of the fastest growing regional science fairs in Canada."**

the next generation of First Nations scientists, researchers, engineers and leaders to our campus."



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# SCIENCE, ENGINEERING AND TECHNOLOGY DAY 2015

BY ELISHA PONCE, KELVIN HIGH SCHOOL



**A**T AROUND 10PM, the night before SET Day, I hand my parents the permission slips. After reading all three sheets of paper in ten seconds, my dad asks me, "What's SET Day?"

Well, that's a good question.

To me, it seemed like an amazing opportunity to be excused from an entire Friday of classes. I turned out to be right, but it was also so much more than that. SET Day 2015 helped me solidify my choice of career and taught me more about other faculties the University of Manitoba offers that I've never even considered before.

As a high school student, I'm one of the few that have already decided what I want to do for the rest of my life, which is a very difficult decision for anyone to make. The Faculty of Engineering has been my goal now for the past year and SET Day encouraged me to work even harder to be able to achieve that. I've always been worried about not doing well enough to get into the faculty, with everyone talking about how competitive it is and all the challenging prerequisite courses I have to take. I've also been intimidated, as a female, when I'm reminded that I would be

applying into a male-dominated field. SET Day helped me overcome this mindset and really broke down barriers for me. I clearly remember all the SET Talks that day and how encouraged I was seeing that we had female speakers representing the science field with presentations on The Science of the Skeleton by Amy Scott and Debbie Kelly on The Science of Bird Brains. Another fantastic thing that I really appreciate from the SET Day organizers is giving equal opportunity to both males and females for participation; each school was required to have the same amount of people from both genders in their group. SET Day organizers, I salute you.


The organizers also did a wonderful job in providing different workshops for us to do.

Each workshop was a great way to give us an insight as

**"SET Day 2015 helped me solidify my choice of career and taught me more about other faculties the University of Manitoba offers that I've never even considered before."**

to what goes on in each university department. In my case, I was given the opportunity to participate in the Computer Science Department where we were taught the basics of Intelligent Robotics. During the workshop, we programmed toy robots to run on tracks using light sensors while playing their own rendition

of Hot Cross Buns on loop. That was truly a once in a lifetime experience, and plenty more fun hands-on activities like this followed throughout the rest of the day.

SET Day 2015 was overall an amazing experience for me; I learned so much from it and would definitely recommend it to others no matter what career they plan on taking on. If you're interested in knowing what it's like to be a student at the University of Manitoba, discovering new things, meeting new people, and receiving free pizza while you're at it, then SET Day is something you should definitely try out. 

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Science, Engineering, and Technology (SET) Day brings approx. 200 grade 11 and 12 high school students in Manitoba to the U of M to get a glimpse of the research that is underway on campus.

An essay competition is held for SET Day student participants to tell us about their experiences and what they've learned.





# SEWING THE BEADS OF CHANGE

BY MARIANNE MAYS WIEBE



## SHERRY FARRELL RACETTE'S CURRENT PROJECT, "THE SEWING CIRCLE," DRAWS ON THE HISTORY OF THE WOMEN OF BATOCHÉ.

Sherry Farrell Racette believes that a stitch is a powerful tool, and that art is the most powerful means of reaching the heart. It's why the scholar, writer, artist, curator and educator of First Nation and Irish descent uses textile art, embroidery and beadwork to communicate her message.

“

**BELIEVE IN THE POWER OF BEADWORK;** the power of the stitch to create change and facilitate healing,” as she puts it.

With a background in art history, education, history, anthropology and Native studies, the member of Timiskaming First Nation in Quebec has taught at universities in Regina and Montreal. At the U of M, she is an associate professor cross-appointed to the departments of Native studies and women's and gender studies. Her multifaceted art practice often draws on her archival research.

Farrell Racette has also been involved in several projects that pair beading with community action. Two are “Common Circles: Art and Community Violence,” a community project in Regina, and “Walking With Our Sisters,” a collaborative installation (initiated by Métis visual artist and

author Christi Belcourt) of 1,800 pairs of beaded moccasin tops — called vamps — that honours missing and murdered Indigenous women. Besides leading two beading circles for “Walking With Our Sisters,” she sits on the national committee and is working on the project catalogue.

It's apropos, then, that her current project will bring to life “The Sewing Circle,” a poem from Métis prize-winning poet Gregory Scofield's 2011 collection, *Louis: The Heretic Poems*. Besides a shared passion for beading and revivifying history, she and Scofield are good friends, says Farrell Racette. “We often talk about our shared history and we are both passionate beadworkers, although he is much more accomplished than I am. We taught beadwork together at the annual Back to Batoche celebration a few years back, and I wrote an essay for his instructional book *Wapikwani: a Beginner's Guide to Metis Floral Beadwork*.”



**Sherry Farrell Racette,** associate professor, Native studies and women's and gender studies

PREVIOUS PAGE: *Death War and Sacred Spaces*, Handmade book with beadwork and leather cover.





*Nagamotaw Kateri (Singing for Kateri)* egg tempera, gold leaf on deer hide parchment. **photo:** Sherry Farrell Racette



A woman walks through the darkness on the eve of the final battle of Batoche, Saskatchewan Resistance 1885. Test shot of handmade puppet prototype for *The Sewing Circle*, a short film based on a poem by Gregory Scofield. **photo:** Eagleclaw Thom

The artist will transform the poem into a short film featuring music by her daughter, a musician, and her own handmade puppets that will represent the women and wives who were involved in the Saskatchewan Resistance. Set in 1885 during the last stand led by Louis Riel and Gabriel Dumont, the poem imagines the conversation of the women, including Marguerite Monet Riel and Madeleine Wilkie Dumont, gathered together the night before the fall of Batoche.

**T**HE FORAY INTO FILM WAS INSPIRED BY Farrell Racette's immersion in Native women's filmmaking thanks to "Native Women and Film," an annual festival she's co-curated over the past five years as part of the women's and gender studies program. Hearing Scofield read his poem aloud was another impetus.

"As he read [the poem]," she says, "I could see it unfolding. I know the history, but the poem adds a dimension to what we know — or what we think we know because so much of the story has been retold and documented from a male point of view."



**Vamps**, (beaded moccasin tops) for Tanya Neepinak **photo:** Sherry Farrell Racette

The three-day Battle of Batoche marks a historical turning point for Métis people, and particularly for those in Saskatchewan, notes Farrell Racette. The reading resonated partly because she had already done substantial research on the women and families of Batoche.

"I grew up hearing stories of Louis Riel from family friends and neighbours in Manitoba. Later, I worked in a teacher-training program for the Gabriel Dumont Institute (GDI) and heard the stories from Saskatchewan," she says. The late Shannon Twofeathers, who worked for GDI collecting stories from elders at Batoche, passed on many stories.

The stories were her catalysts, she says. "One story in particular — of women hiding in the caves at Batoche while war raged around them and their homes were burned by the Canadian military — had a profound impact on me, and I went home and painted it."

Painting the scene spurred several additional artworks and a good deal of academic research on women, and resulted in an exhibition she curated at the Parks Canada Heritage site, entitled "Resistance/Resilience: Metis Art: 1870-2011."





Story Blanket: Kooshkopayiw/Awaken/Eveillier for Métis Rights Niche, 2 of 2 panels. photo: Sherry Farrell Racette

**“YOU’RE ACTUALLY MANIPULATING IN A VERY REAL WAY THE FACTS OF HISTORY; YOU’RE LITERALLY SEWING THEM, OR YOU’RE PAINTING THEM, OR YOU’RE CARVING THEM. “THERE’S SOMETHING ABOUT THAT PROCESS THAT I FIND REALLY COMPELLING.”**

A commissioned installation she did for the Canadian Museum for Human Rights includes the story of Batoche from a woman’s point of view.

“The stuff that I found out over time that happened to the women at Batoche is really not widely known,” she says. “It’s a way to feminize history — because that is part of my wider project, to bring forward women’s stories.

In addition to the archival materials she gathered, meeting with the descendants of families who stayed and rebuilt Batoche has been a significant aspect of her research, an approach that is typical for her. Her way of working is motivated by the sense of responsibility she feels to the communities whose stories she tells.

She explains, “I talk to people; that’s my way of doing oral history research, sort of hanging around, talking to people. When I was doing research about the fall of Batoche, I was finding photos of the women and the people involved — and those will become tiny details [in the video] and it has to be right.”

Farrell Racette is compelled by the tangible and symbolic power of this creative work and research, a power that draws on community connection. “That’s the difference,” she says, “I sort of don’t have creative license. I am acting on behalf of someone ... I’m doing this for people. I’ll go back and I’ll say, have I got it right?

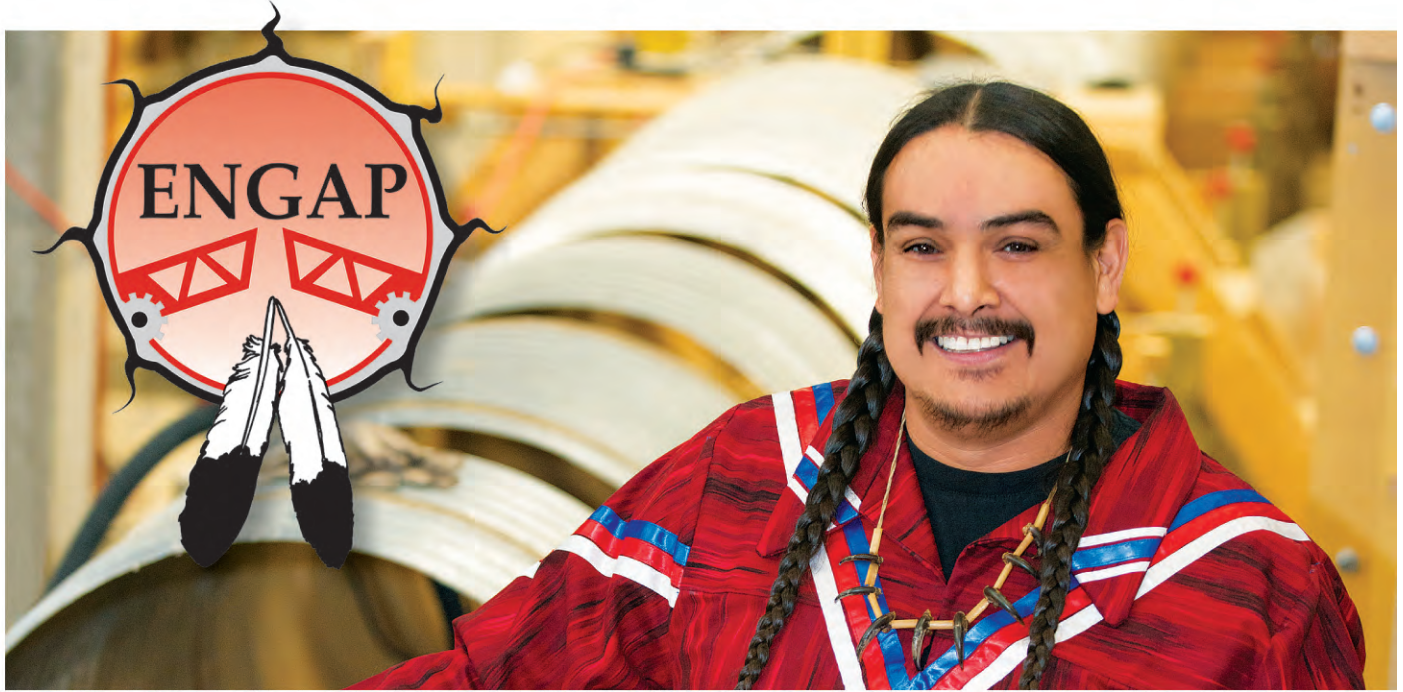
“Something about the physical manipulation as part of the creative process for me takes my thinking and my analysis deeper,” she adds. “Because you’re actually manipulating in a very real way the facts of history; you’re literally sewing them, or you’re painting them, or you’re carving them.

“There’s something about that process that I find really compelling.”



# CELEBRATING 30 YEARS OF SUCCESS

The engineering access program for aboriginal students in the faculty of engineering



In 2015 the University of Manitoba Engineering Access Program (ENGAP) celebrates 30 years of providing guidance to Aboriginal peoples pursuing a degree in engineering.

All ENGAP graduates and friends of the program are invited to help us celebrate this important milestone.

## THE ENGAP 30<sup>TH</sup> ANNIVERSARY CELEBRATION & HOMECOMING

**October 2 & 3, 2015**

Engineering & Information  
Technology Complex  
(EITC) University of Manitoba,  
Fort Garry Campus

[umanitoba.ca/engineering](http://umanitoba.ca/engineering)

To find out more and to ensure we have your current contact information, Contact:

[engap@cc.umanitoba.ca](mailto:engap@cc.umanitoba.ca)

or call 204-474-9872

**Toll free: 1-800-432-1960**

**Ext: 9872**

Faculty of  
Engineering



UNIVERSITY  
OF MANITOBA

## HOMECOMING: INDIGENOUS ACHIEVEMENT

**Wednesday, September 30, 2015**  
11:30 a.m. – 1:00 p.m.

**Migizii Agamik**  
– Bald Eagle Lodge

[umanitoba.ca/indigenous](http://umanitoba.ca/indigenous)

**For more info:**

Ruth Shead 204-474-6747  
[ruth.shead@umanitoba.ca](mailto:ruth.shead@umanitoba.ca)

Everyone is welcome to join and celebrate University of Manitoba's Indigenous alumni and connect with the Indigenous community on campus. This year we are celebrating the 30th anniversary of the Engineering Access Program (ENGAP) and guest speakers will share their stories of success and leadership. Our Indigenous Homecoming aims to bring community together through dialogue and information sharing. A celebration lunch will follow.



# JUST THE FACTS



**E**VERY YEAR, THE UNIVERSITY OF MANITOBA welcomes more than 2,000 First Nations, Métis and Inuit students, including more than 150 graduate students, making up one of the largest Indigenous student populations in Canada.

Our Pathways to Indigenous Achievement plan reflects how education can be life-changing and benefit both individuals and communities.

**The Engineering Access Program has graduated the most Indigenous engineers in Canada: 99 and counting.**

In 2015, the U of M celebrated the 26th anniversary of the Annual Graduation Pow Wow, honouring the achievements of more than 350 Indigenous graduates.



**THE U OF M CURRENTLY HOLDS 40 CANADA RESEARCH CHAIRS, THREE OF WHICH FOCUS ON MATTERS OF IMPORTANCE TO INDIGENOUS CULTURE AND WELL-BEING.**



**MICHAEL HART**  
(social work), Canada Research Chair in Indigenous Knowledges and Social Work, is working with Indigenous peoples to uncover aspects of their cultural helping philosophies and relating them to social work. His aim is to develop social work theories and practices relevant to and supportive of Indigenous peoples.



**KIERA LADNER**  
(political studies), Canada Research Chair in Indigenous Politics and Governance, is an expert in the field of Indigenous politics and the competing visions of Indigenous self-government in Canada. Her community based research into constitutional reconciliation and decolonization is creating a deeper understanding of these rival ideas and the tensions they have created, both within communities and between First Nations and Canada.



**WARREN CARIOU**  
(English, film and theatre); Canada Research Chair in Narrative, Community and Indigenous Cultures; believes that learning how Canada's many stories about community intertwine, interact and overlap is critical to understanding how written and oral narratives define community identity and the role such stories play in ongoing struggles for community rights and cultural equality.



31-JUNE 3, 2013

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Fred Cattroll



Buffy Sainte-Marie performed a free outdoor show as part of the Truth and Reconciliation Commission of Canada Closing Ceremonies on June 3 in Ottawa. (See related story page 18.)