Unlocking the North

BY DALE BARBOUR The Bulletin

This year, Centre for Earth Observation Science director David Barber is helping head up the Circumpolar Flaw Lead System (CFL) Study. It’s the largest project being undertaken in the Arctic as part of the International Polar Year and has brought 200 researchers from 15 different countries to the edge of the Arctic Ocean.

You can read about the CFL Study on pages 7 to 10 of The Bulletin.

For Barber, it is just the latest in string of successful research projects being conducted in the Arctic Ocean and Hudson’s Bay. Using the Canadian icebreaker Amundsen as a mobile research base, the U of M and Laval University have been leading a consortium of universities that are tracking the changing face of Canada’s North.

But it wasn’t always this way. A dozen years ago, Barber didn’t know if there would be enough research in the Arctic to keep him in it.

“It’s interesting for me because I’ve been in the Arctic long enough that I’m starting to see some cycles in Arctic research. When I was first in the Arctic back in the early ‘80s the government was very interested and involved in Arctic and Arctic related things. That was right around the time of the middle of the 20th century’s worst economic downturn and the early push that was going on in oil development in the Arctic related things. That was right around the time of the government was very interested and involved in Arctic research. When I was first in the Arctic back in the early ‘80s long enough that I’m starting to see some cycles in Arctic research. When I first came to the U of M in 1993, I kept the research program going in the Arctic on my own and it just about bankrupted me.”

But in 1995 and 1996 things started to change – a change in approach that drew at least some of its roots from a chance encounter in the north.

“I was working in a tent camp studying sea ice, and I had a small group of people with me, and about five miles away there was another tent camp on the ice and these guys were from Laval University. We’d get together periodically just to have a beer, really, chat and have supper together just to break up the routine of doing the science work. We started talking about what they were seeing versus what we were seeing,” Barber said.

“We were physically oriented scientists and they were biologically oriented scientists and yet we could start to see some of the interconnections between the physics and the biology. That sort of cross-pollination was new. At the time most researchers stayed in their disciplines.”

The study looked at the performance of educational training programs at 538 universities throughout the world, based on the business and professional career accomplishments of their graduates. The ranking, by the École des Mines de Paris, looks at the comparative number of graduates holding a chief executive officer (CEO) position in a leading Global Fortune 500 company, as listed by Fortune magazine in 2006.

The University of Manitoba was ranked 84th in the world, scoring higher than such institutions as Cornell University, the London Business School, Emory University and Johns Hopkins University. The top three educational institutions in the world were Harvard (1st), Tokyo University (2nd) and Stanford University (3rd).

The U of M alumni on the list are Richard Waugh, CEO of Scotiabank, and Gerald Schwartz, CEO of Onex Corporation.

Only eleven Canadian educational institutions were ranked in the list: Concordia (54), Queen’s (54), Manitoba (84), Toronto (84), Sherbrooke (89), Western Ontario (89), University of British Columbia (214), Ottawa (318), McGill (318), Carleton (318) and Windsor (318).

“The University of Manitoba has always produced graduates who excel in a great variety of fields,” says president Em admirer. “It is not surprising to me that we are ranked high in comparison with other Canadian universities and with other post-secondary institutions around the world in producing Global Fortune 500 business leaders.”

See U of M/P 2
Amundsen provides common reference point

From Page 1
But the potential of working together was obvious to both groups and in 1995 Louis Fortier, the head researcher for the Laval team, contacted Barber about joining a joint-proposal for an Arctic based research project. Fortier, a biologist by trade, recognized that the life forms he was studying were being impacted by the ice that people like Barber were interested in.
The result of those discussions was twofold – with Laval and the U of M as the heads, a consortium of universities known as ArcticNet, a Network of Centre of Excellence of Canada, was formed and seconded, the group acquired funding to outfit the Canadian Coast Guard Ship Amundsen and to purchase a vessel which would range across the north carrying the researchers directly into the field. But as importantly, the Amundsen is a place where different disciplines and approaches to the Arctic are being combined. It’s changed the way people like Barber think about research. “Instead of high energy physics guys trying to learn the physics of the universe, we’re trying to learn how the Arctic ecosystem works and responds to climate change,” Barber said. “I’m able to do complex research work on questions, where I didn’t even understand the question 15 years ago.”

For graduate students, it’s an incredible opportunity to do field work in the North and work with a broad spectrum of topics together. “You don’t build a program like this without the support of the institution,” Barber added. “It would be very difficult for me to do this at any other institution because the university was very proactive in recognizing the research opportunities in the Arctic.”
The politics of working in the North have also changed. Barber said the creation of Nunavut as Canada’s third territory has added another voice demanding accessibility, the area is going to need protection.”

And there is a corresponding interest from environmental groups that say with this increased accessibility, the area is going to need protection.”

Given the potential for the development of the Arctic, the Canadian government is being asked to make public discussions. It’s that concern that has put Barber very much in the public eye.

“There’s a lot of people that say that scientists should simply conduct science, report their findings in peer-reviewed journals and they should not engage in public discussions. I do not believe that’s the case. I believe as scientists our job is to conduct science, understand how it works, publish that information but also inform the public about the results,” Barber said. “Someone like me, who’s a generalist, can interpret between the complex science that goes on on a ship like the Amundsen and make it understandable to the public.”

It takes time. Barber does about 100 media interviews in a given year. But the hope is that the effort will pay off in people having a better understanding of the science that underpins discussions about global climate change in the North.

U of M grads are making a difference

From Page 1
In Canada alone, the University of Manitoba has made an impact in business and financial circles, based on this same criterion. Graduates of the university who are currently at the helm of major companies make a long list, but just six include: Gilles Chaput (BDO Dunwoody); Timothy Hear (Imperial Oil/Exxon Mobil Ltd.); Hartley Richardson (James Richardson & Sons); Clayton Riddell (Paramount Resources); Murray Taylor (IGM Financial); and Phyllis Yaffe (Alliance Atlantis). Of the 2008 top 50 Best Employers in Canada, according to Report on Business magazine, six are led by U of M graduates, including Charlie Spring, who is Chair and CEO of Wellington West Holdings, Inc., which was ranked number 2 on the list. In addition, Highpine Oil & Gas Ltd., a Calgary-based production company, announced on Jan. 8, that Jonathan Lesier, another U of M grad, has become its president and CEO.

Graduate goes Hollywood

Dec. 9, 2007
The Winnipeg Free Press

Faculty of Arts graduate Rachel Shane was the topic of an in-depth article in The Winnipeg Free Press on her progression through the American film industry, where today she is an executive producer. Shane was interested in the newspaper’s film Buff Randall King over lunch at the Four Seasons Hotel in Beverly Hills. She credits an introductory course with film studies professor George Toile as the first inklings for movies. She has worked with films such as The Mask of Zorro, Spy Game, Jarhead, Memoirs of a Geisha and Bewitched.

Age matters
Dec. 12, 2007

A Canadian Press news story on mandatory retirement that retired law studies professor David Camfield ran in several newspapers and online newswire and radio websites all across Canada.

Law professor on Charter
Dec. 21, 2007
The Lawyers Weekly

2007 marked the 25th anniversary of the Canadian Charter of Rights and Freedom. The Lawyers Weekly, a newspaper for the Canadian legal profession, asked University of Manitoba law professor Karen Busby for her opinion on what challenges and changes can be expected to the Charter in the future. Busby said to expect challenges to labour laws, privacy issues, freedom of religion, a current ban on immigrants from members of the university community. Here’s a look at the stories and headlines that show how U of M faculty and staff impact the world around them.

The News University of Manitoba members are always making news – demonstrating the university’s impact on the community. Here’s a look at the stories and headlines that show how U of M faculty and staff impact the world around them.

Headline News
Where else has the U of M been making news? Here’s a look at just a few of our headlines over the past few weeks.

* Climbing to the top of his game; Tenor Keith Klassen displays versatility in two disparate shows around town, *The Toronto Star*, Jan. 3, 2008.

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It’s about the “essentials of life”

ARDI grants $548,627 towards health and environment projects

The Agri-Food Research and Development Initiative (ARDI) has awarded more than half a million dollars ($548,627) to research projects taken place at the University of Manitoba. The eight projects range from protecting our soil and water to understanding how Manitoba-grown crops influence our health.

“The group of projects is aligned with two of the top-of-mind concerns of Manitobans, namely health and the environment,” says ARDI chair David Gislason. “These projects are really about the essentials of life. Research to help protect our food and our water is relevant to all of us, whether we live in Winnipeg, Thompson or Arborg.”

Don Flaten’s project illustrates how research can benefit farmers as well as other Manitobans. Flaten, at the department of soil science, received a grant of $147,132 for his work exploring gaps in our knowledge of manure nutrient management. Over three years, Flaten and his team will apply different types of manure to 96 separate crop plots, taking hundreds of manure samples and crop measurements as they go. The results of this research will help farmers use manure at optimal amounts to fertilize crops.

“Gaps in our knowledge of manure management are long recognized,” says ARDI executive director Robert Kerr. “This project will help close those gaps through a data collection effort that will allow researchers to draw better conclusions about the environmental impacts of manure.”

A variety of private sector investors and the Province of Manitoba will jointly support the $200,000 in funding. The Asper School of Business will work with the Winnipeg Angel Organization, a network of about 30 private-sector venture capitalists in Manitoba, to help attract investors to the new program.

“This new competition represents another example of the Asper School’s relevance to the local business community as we are building on past success with student competitions by extending the model to local companies,” said Kerr. “This new effort reinforces the close ties between the University of Manitoba, the Asper School of Business, the business community, investors and the province and represents a unique partnership between those involved.”

“We will be good for those receiving an investment but in addition, all entrepreneurs chosen for the business plan boot camp will be helped further refine their business plan which will better their chances of attracting capital in the future,” said Rondeau.

New competition will fund biz plans

Manitobans with innovative business ideas will soon have the opportunity to enter a new competition where up to $200,000 in prize funding will be awarded to winning business plans, says ASPE executive director Joanne Keselman. “This new competition represents another example of the Asper School’s relevance to the local business community as we are building on past success with student competitions by extending the model to local companies,” said Keselman.

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Students of the University of Manitoba’s Asper School of Business played host to students from as far away as Zurich, Brazil, Mexico, Singapore and Los Angeles as the school’s 26th annual Manitoba International Marketing Competition (MIMC) was held over the past weekend. MIMC is the largest competition at the University of Manitoba and is believed to be the only student-run competition of its kind in Canada.

It kicked off in September with teams competing in an online game where they implemented all the marketing initiatives of a fictional corporation. A rating system scored teams based on performance. MIMC is the final phase of the project, where teams formally present their plans to panels of academic and corporate judges.

MIMC is not only a great opportunity for Asper School of Business students to showcase their skills in front of the business community, but it gives us prime networking time with the pros,” says Ryan Symaka, MIMC director of promotions. “As ambassadors of the University of Manitoba and the City of Winnipeg, this event also gives us the opportunity to gain invaluable marketing know-how from business students from other cultures.”

The UBC team was queuing on Saturday to make their presentation on the pitfalls and successes of marketing “set-top boxes.” While the product is fictional, the business decisions around marketing it were dead serious.

“They wanted to make the products hypothetical so we’d focus on the actual decisions. They give you the research data and you have to decide what the right information to use is and what the right marketing decisions are,” said UBC business student Zarchi Shein.

The simulation took the students through four months of running a business and then asked them to prove that they had met the goals they had set for themselves at the beginning of the competition.

“It’s been fun and really stressful,” Dave Rusli said. “We’ve basically had no break since we started the competition. We met on Christmas Eve and on New Year’s Eve.”

But as for whether they could show they had met their goals, Rusli had no doubt.

“We can prove it,” he said.

Simulated products, real competition

University of British Columbia business team members Zarchi Shein, Dave Rusli, Tiffany Mak and Victor Chan were among the competitors at this year’s Manitoba International Marketing Competition.

A number of local investors have agreed to be part of the new competition including Guy Bieber of Bieber Securities and Allan McLeod of the Tribul Councils Investments Group. In addition, the Asper School has attracted investors from Alberta, Ontario and the United States to the event.

The competition will take place April 3 to 5 at the Fort Garry Hotel at the same time as the Asper School’s international student business plan competition, the Stuart School Venture Challenge.

More information on the Manitoba Venture Challenge is available at umanitoba.ca/entrepreneur.
What’s life if not a work in progress?

In my art, I try to create tension with an unexpected element,” says Takashi, who describes Japan as a monocultural society. He was amazed by the richness of the ethnic and religious diversity he encountered at the university. “I like finding the unusual in things, that’s what inspires me.”

Works in Progress
January 4th, 2008

New Year’s Eve. My art making doesn’t stop. I’m getting ready for a group show at Atelier Gallery in Vancouver starting from Feb. 2, 2008. I have to finish up some of my paintings and embroidery pieces to have them arrived in Vancouver by Jan 15. I’ve still got some work to do, but I really enjoy the time when I’m making something. I also have a few paintings for other group shows this summer. I’m working on a new piece that I hope will be ready for the summer show. I’m looking forward to getting back to the studio and working on new projects. I think that’s what makes art making such a rewarding experience. I’m excited about the possibilities that await me this summer and I can’t wait to get started.

A look at Takashi Iwasaki’s work

Takashi Iwasaki’s paintings, drawings, collages and embroidery pieces have been gaining acclaim. He’s also managing the Semai Gallery in Winnipeg.

Takashi Iwasaki

Takashi Iwasaki has completed his bachelor of fine arts at the School of Art and is currently working as a visual artist in Winnipeg.

“In Japan, original art isn’t as valued as it is in other places,” he says. “So I never thought I could make a living at it, but the program opened my eyes to the possibilities. Now I’m working as an artist and my professors have become my peers and friends.” Shown and sold at various galleries in North America, Takashi’s main objective in attending university was to learn English by living in English. Though he had a talent for drawing, his choice of program was almost incidental.

“Takashi’s paintings, drawings, collages and embroidery pieces have been gaining acclaim. He’s also managing the Semai Gallery in Winnipeg.”

Viewpoint Policy

The University of Manitoba Bulletin welcomes letters from members of the university community. Letters about matters related to content in the Bulletin are welcome. Letters must be original and address the editor. Letters expressed are those of the writer. The Bulletin does not publish anonymous letters. Please include your name, affiliation and phone number. Letters should be submitted to barbourd@ms.umanitoba.ca. The editor reserves the right to edit or reject any submission that does not comply with policy. Opinions expressed are those of the writer.

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UNIVERSITY OF MANITOBA RESEARCH SUPPORT PROGRAMS

To encourage the development of research, the University has a number of research support programs. These programs are administered by the Office of the Vice-President (Research) on behalf of the University. For further information on these programs (i.e., program priorities and guidelines, application procedures, etc.), contact the appropriate person listed below, or access the forms via the Web at: http://umanitoba.ca/research/ors/internalfunding_deadlines_forms.html

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<td>UMSS/SHRC Research Grants Program (UMSS/SHRC RGP)</td>
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**Marks of Achievement**

**Earned some recognition or an award? The Bulletin wants to celebrate with you! Please e-mail information about your Marks of Achievement to barbourd@ms.umanitoba.ca. Feel free to include a picture of yourself. We'll need a 200 dpi jpeg image. If you would like to chat about the details or picture, please call 474 8111.**

**Simons bolsters patient treatment**

Estelle Simons received the World Allergy Organization’s Scientific Achievement Award “in recognition of outstanding scientific contributions in allergy and immunology which have aided clinicians around the world to treat patients more effectively.”

The award was presented at the World Allergy Congress in Bangkok, Thailand in December 2007. The World Allergy Organization has 35,000 members in 74 countries.

Simons is a professor in the department of pediatrics and child health and the department of immunology at the University of Manitoba.

She is a past-president of the American Academy of Allergy, Asthma, and Immunology, past-president of the Canadian Society for Allergy & Clinical Immunology, and past head of the Canadian Pediatric Society Allergy Section.

**HIV study attracts world’s attention**

An HIV study led by the University of Manitoba’s Stephen Moses has been named one of the year’s top medical breakthroughs by Time magazine.

Moses was one of the principal investigators in research that found male circumcision can reduce the risk of HIV infection in men who have heterosexual sex. Moses, along with researchers from universities in the U.S. and Nairobi, conducted clinical trials on men in Kenya and Uganda and found that circumcised men were roughly 50 per cent less likely to become infected with HIV.

In one of the studies, about 1,000 uncircumcised men were asked to use condoms and be tested for HIV twice a year. In the other study, about 2,000 men were not given condoms and were only tested for HIV once a year.

The results were published in the New England Journal of Medicine and one of the studies was recently published in the Lancet.

**Exhibit gets noticed**

The Gallery One One show Hitzgerald in Context was recently named one of the end of year list on the back of the Uptown Magazine. The exhibit, put together by School of Art professor Marilyn Baker, was listed on the magazine’s top ten list of art shows held in Winnipeg in 2007. The FitzGerald exhibit came in at number 5 and Uptown writer Stacey Abramson noted: “The University of Manitoba’s School of Art’s namesake received quite the exhibition in his name this year. It was a carefully researched and extensive collection of Fitzgerald’s work and experiences that gave all viewers one a good understanding of the scope of his impact on Canadian art history.”

**Co-op program achievements**

Dr. Barry Wijngaarden, co-ordinator of the University of Manitoba’s School of Art’s namesake received quite the exhibition in his name this year. It was a carefully researched and extensive collection of Fitzgerald’s work and experiences that gave all viewers one a good understanding of the scope of his impact on Canadian art history.

**Honours for teachers and students**

University 1 hosted its second annual Celebration of Excellence in Teaching and Learning. Students, parents and instructors came together on Nov. 26 in the Marshall McLuhan Hall, University Centre, to celebrate their teaching and learning achievements. The audience was congradulated by Richard Lobdell, vice-provost (programs) followed by Christine Ilian, director of University 1.

Blais presented this year’s Teaching in Excellence Award recipients Jennifer van Wijngaarden and Elena Smirnova (both in the Department of Chemistry) certificates to recognize their nominations by the students. Bob Altmeier was also recognized for his long standing commitment to excellence in teaching.

Since 2002, University 1 students have submitted nominations for instructors who teach any of the courses listed on the University 1 course list. Instructors must: 1) be instrumental in helping students make a successful academic and personal transition to the University of Manitoba, and/or 2) stimulate student’s interest in the subject area he/she taught, and/or 3) be enthusiastic, organized, and facilitate effective learning.

Honour Roll students were also recognized with certificates for achieving a term grade point average of 3.5 or higher on 12 or more credit hours.

**U of M graduates named to Order of Canada**

Her Excellency the Right Honourable Michaëlle Jean, Governor General of Canada, recently announced new appointments to the prestigious Order of Canada and four out of 64 appointees are University of Manitoba graduates, including one who is also a retired professor. Additionally an honorary degree recipient of the University of Manitoba was named.

The Order of Canada recognizes Canadians with a lifetime of outstanding achievement, dedication to community and service to the nation.

University of Manitoba alumni Murriel Smith, O.C., has been named an Officer of the Order of Canada. Honourary degree recipient Clara Hughes, O.C., O.M. was also named as an Officer of the Order of Canada.

Carol Gay Bell, C.M., Marcien Ferland, C.M., and T. Kenneth Thorlakson, C.M. have been named Members of the Order of Canada.

“I am delighted that University of Manitoba graduates are being recognized with Canada’s highest civilian honour,” said University of Manitoba president Emile Statham, O.C., who was appointed to the Order of Canada in 2005. “University of Manitoba graduates are among the best in the world, and they continue to inspire all.”

Murriel Smith, O.C. is being recognized for her efforts in promoting social justice in Canada and around the world, notably as a leader and a long-time volunteer with local, national and international organizations. Last fall Smith was honoured by the Governor General for her dedication to women’s equality. She is a four-time graduate of the University of Manitoba.

Finally, Klassen initiated a project of Ebola virus and he is listed as a co-author for the project. He participated in a study on neutralization completely novel approach using pseudotyped HIV influenza A (H5N1) and a HIV vaccine based on a development involving the synthesis of artificial Health in Winnipeg.

**of Development and Cooperation (www.fadeco.org). FADECO works to promote sustainable socio-economic development at the community level. Jane will be involved in developing, implementing, and adapting low cost technologies that are appropriate, cost effective and affordable to poor rural communities.

“J. C. has been named an Officer of the Order of Canada. O.C. has been appointed for his contributions as a volunteer and fundraiser dedicated to the preservation and promotion of Icelandic heritage and culture in Manitoba. Thorlakson is a graduate of the Faculty of Medicine at the University of Manitoba, where he has continued in academics with a longstanding teaching position in undergraduate surgery.

The Order of Canada was established in 1967 and recognizes people in all sectors of Canadian society. A ceremony to receive the Order of Canada insignias from the Governor General will take place later this year.

**Jan Polak Scoocroft is on top of the world thanks to an attitude that has kept her engaged with projects locally and around the world. The computer engineering student was named in November to the Globe and Mail’s top 100 women in Canada. It’s an honour that came on top of being named as one of Canada’s Top 20 Under 20 in 2006.**

In 2006, she was involved in developing, implementing, and adapting low cost technologies that are appropriate, cost effective and affordable to poor rural communities.

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**Scowcroft among top Canadians**

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**For details call 474 8111**

**Advertise in the Bulletin**
Mosaic celebrates 40th anniversary

BY DALE BARRBOUR

The Bulletin

Forty years ago Mosaic was created to bring together different approaches to studying ideas and literature. Since then, it has been one step ahead of the rest when it comes to seeing the links between ideas, literature, and disciplines that span the breadth of the humanities. The name itself was drawn from the notion of Canada having a cultural mosaic – a concept popularized during the 1967 Centennial Celebrations. It was originally created as “A Journal of Comparative Study of Literature and Ideas” before changing in the early 90s to become a “journal for the interdisciplinary study of literature.”

At that time the notion of interdisciplinary work was pretty radical – that you could make literature the locus of interdisciplinary work was new,” Mosaic editor Dawne McCance said. “I think Mosaic has consistently stayed with the multi-plurality of things which is not easy to do in a university setting when things are bordered off through the disciplines.”

To look at the editions of the journal, those sorts of ideas become tangible,” production manager Lisa Muirhead said. “When we had the conference The Photograph in 2005 – and the issue that followed based on the conference – it brought together people from so many different areas and that’s where you really start to create this community of scholars.”

Or to play out the imagery even blunter, a mosaic of ideas. If the boundaries of study have been challenged, it is the notion of being locked into one medium has also fallen by the wayside. Mosaic is not so much a paper journal as it is an attempt to presenting information. A situation made clear by both its presentation on the internet and through conferences such as The Photograph and Following Ovidia: Legenar, which was held in 2006. “I think it’s impossible to confine anything to paper publications now,” McCance said. “With the internet we’re talking about an infrastructure that stretches worldwide. The conferences are an important step in helping facilitate a conversation.”

“The conferences are great because they help us build our network of contacts,” Muirhead added. Those contacts eventually become part of the extended Mosaic family. The journal’s office only has about a half dozen people in it at any given time – bolstered by three student interns. But behind them are more than 10,000 academics who have agreed to step forward and review articles for Mosaic, and who are contacted and brought into the journal’s operation through a massive database that Greg Renegar, Mosaic’s IT person, has constructed. Every journal relies on a cadre of academics to check the authenticity of its articles. But Mosaic is exceptional in the number and variety of people it has as reviewers. It has to be. It’s an enormous pool of people but we need that many because of the interdisciplinary nature of the magazine,” submissions, systems and business manager Jackie Pantel said.

As with all journals, Mosaic is probably viewed on the internet as much as it is read in the library now. That’s great for reaching people, and encouraging discussion, which is ultimately what any journal is about, but it does pose challenges for running the journal. “It has definitely made it challenging in maintaining individual print subscribers,” McCance said. “It’s a different experience. We’re teaching as well as running a business. And students are always full of ideas. They can help with research work and they’re learning about a part of academia that they don’t learn about in the classroom.”

The conferences are a different aspect,” student intern Dana Hopkins agreed. “It’s really put into perspective for me how the internet is connected and I have a chance to meet people from all over the world that I would never have met otherwise.”

Now you can scan it at the library

Have a map, blueprint or other large format item that you need to scan? The University of Manitoba Libraries have purchased a large format flat scanner that can handle items up to 24” x 36” in size. Larger items would need to be stitched together. Library staff will provide consultation and provide a TIFF file on a DVD if you have other requirements, we’ll do our best to accommodate them.

The service is available at the Elizabeth Dafoe Library circulation desk where you’ll be asked to fill out a form and pay $5 per scan. (For University of Manitoba faculty, staff and students). Your scan will be ready two weekdays after you submit it when you can return to the circulation desk to pick up your DVD with the scanned image.

Clinical Dentists

The Centre for Community Oral Health (CCOH) is a progressive, multi-site, not-for-profit organization that administers oral health outreach programs on behalf of the University of Manitoba and the provincial Ministry of Health. The Centre provides self-motivated, community-minded dental professionals to work as part of our oral health team.

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In addition to the legal and trade-mark services it provides to start-ups, Fillmore Riley is supporting the eureka project: Smartpark’s Incubator Recently the firm became the second corporate partner to join the high-tech business incubator’s sponsorship program. Peter Davey, a partner at Fillmore Riley and the chair of its Securities Law Practice Group, says that, “We have been very impressed with what eureka project director Gary Brownstone and his group have been doing with this program to date. They are attracting some very innovative companies and have assembled a group of many talented individuals and we want to be a part of that community and to assist where we can.”

Steven Rabin, the chair of Fillmore Riley’s Technology and Intellectual Property Group and Trade-mark Practice Group, agreed. He said, “From the beginning Fillmore Riley has assisted start-up companies and then grown with them by trying to find the best way forward for them, be it by way of raising capital, protecting rights, or completing transactions. That’s why we see ourselves as a perfect fit with the eureka project. Innovation never goes old.”

“We are pleased to welcome Fillmore Riley into our community of innovators at Smartpark,” said Brownstone. “Since the inception of the eureka project, we have been looking for a partner to join the high-tech business incubator. Fillmore Riley LLP will have the opportunity to join eureka project clients and Smartpark holds throughout the year and to host its own networking events for the eureka project’s clients.”

The eureka project: Smartpark’s Incubator is building a dynamic community of start-ups at Smartpark Research and Technology Park unraveled and Siotech in connection with a conversation created around high-tech innovation and entrepreneurship in Winnipeg. Its aim is to provide a superior incubator experience and facility founded on participation of Smartpark’s business community and on the doorstep of The University of Manitoba.

The incubator is home to 10 high-tech companies working on various projects of nutritional and agricultural sciences, information and communications technology, engineering and advanced materials, health and biotechnology and environmental solutions.
The University of Manitoba is playing a leadership role in Northern research. Over the next year that leadership role will be showcased on the Canadian Coast Guard Ship Amundsen as it patrols the edge of the Arctic ice-pack providing researchers with a floating research platform.

Public affairs communications manager Leah Janzen was onboard the Amundsen in December to see firsthand what our researchers are discovering and what it means for Canada’s North and the world.

BY LEAH JANZEN
For The Bulletin

Minutes after our twin otter takes off from the Inuvik airport, the mid-day sun gives up its half-hearted attempt to climb over the horizon and sinks back down into its winter hibernation. The sky is now little more than a grey smudge and the spindly, stunted pines that had dotted the landscape below a moment before have also surrendered to the increasingly harsh and inhospitable climate and terrain. There is nothing now but ice and snow. Eventually, the land drops away and we are now flying over the Amundsen Gulf in the Arctic Ocean. It is mostly frozen, but from the air it’s possible to see massive cracks in the ice which sometimes gape open to expose the sea beneath. In spots it looks like fine, bone china which has been shattered into shards. In areas where the water is visible through the cracks, steam rises from the open fissures. I can only imagine what it will look like at my final destination, at least another hour further north.

I am on my way to visit the CCGS Amundsen – a research ice breaker being used by the University of Manitoba-led Circumpolar Flaw Lead System Study (CFL). David Barber, Canada Research Chair in Arctic System Science and director of the Centre for Earth Observation Science at the University of Manitoba is the principle investigator of the CFL study. Over a 10-month period which began in October, the Amundsen will be home to a rotating team of scientists from around the world. About 200 researchers from 15 countries will be on board at some point to study a number of Arctic areas including sea ice, oceanography, food webs, gas fluxes, sea mammals, contaminants and traditional Inuit knowledge of the Arctic climate. Five of the 10 research components of the project are being lead by University of Manitoba professors. A large number of University of Manitoba graduate students will also have the opportunity to take part in the research on board the ship. High school students from Canada and a number of other countries will also be invited on to the Amundsen during the project to participate in the research as part of the Schools on Board program, also led by the University of Manitoba.

The CFL project began in October and is expected to continue non-stop until mid to late August, 2008. It is part of International Polar Year (IPY), an intense international program of coordinated, interdisciplinary science research and observations over a 24-month period. The CFL project is the largest IPY project in Canada and is possibly the largest IPY project in the world.

In July, the federal government contributed $25.5 million to the $40 million project. At present, the ship is drifting in the sea ice in the Amundsen Gulf in the Arctic Ocean just south of Banks Island. The area is desolate and hostile, but it has become a region of intense interest on the part of climate change researchers. Canada’s high Arctic has been called the canary in the coal mine of climate change. What happens here has serious implications for the rest of the world. Faster melting means eventual sea ice level rise and more immediate changes in winter weather because of the smaller amount of sea ice. White sea ice reflects about 80 per cent of the sun’s heat off the earth. When there is no sea ice, about 90 per cent of the heat goes into the ocean which then warms everything else up. Warmer oceans lead to more melting. What scientists are seeing in the Arctic now is not encouraging. An already alarming decrease in sea ice greatly accelerated this summer, prompting some scientists to estimate that the Arctic could now be ice-free in the summer as early as 2012. Just last year, that estimate was pegged at 2040.

"The changes we’ve seen in the amount of sea ice, even in the last year, have been dramatic. We’re also seeing an increase in mercury levels in mammals and a variety of other things which suggest the impact is already being felt at all levels." - Gary Stern, CFL co-lead investigator, Clayton H. Riddell Faculty of Environment, Earth, and Resources

Stephane Julien, the Coast Guard Captain of the Amundsen said the decrease in multi-year sea ice has been so rapid and dramatic that it’s fair to now call the ice “an endangered species.”

On the flight out from Inuvik dawn and dusk bleed into one another. University of Manitoba researchers onboard the Canadian Coast Guard Ship Amundsen are getting a first hand view of the changing face of Canada’s Arctic.

Twilight for Canada’s north
U of M has leadership role in Arctic research

By Leah Janzen
For The Bulletin

I am on my way to visit the CCGS Amundsen – a research ice breaker being used by the University of Manitoba-led Circumpolar Flaw Lead System Study (CFL). David Barber, Canada Research Chair in Arctic System Science and director of the Centre for Earth Observation Science at the University of Manitoba is the principle investigator of the CFL study. Over a 10-month period which began in October, the Amundsen will be home to a rotating team of scientists from around the world. About 200 researchers from 15 countries will be on board at some point to study a number of Arctic areas including sea ice, oceanography, food webs, gas fluxes, sea mammals, contaminants and traditional Inuit knowledge of the Arctic climate. Five of the 10 research components of the project are being lead by University of Manitoba professors. A large number of University of Manitoba graduate students will also have the opportunity to take part in the research on board the ship. High school students from Canada and a number of other countries will also be invited on to the Amundsen during the project to participate in the research as part of the Schools on Board program, also led by the University of Manitoba.

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Amundsen patrols the edge

The last hour of the flight to the ship feels much longer. The twin otter is loud – sounding a bit like a massive blender set to ‘puree’ – and incredibly hot inside. The pilot explains that the plane has two settings, deep freeze or broil, and he’s clearly opted for the latter. After what seems like hours in the air, the pilot turns to his passengers and gives us the thumbs up. Craning my neck to peer out my small porthole window, I see the lights of the Amundsen twinkling in the inky darkness. We land on an improvised air strip which has been carved out of the sea ice just metres from the approximately 100-metre-long ship. Total flying time from Winnipeg to the ship – nine hours.

After piling our gear onto snow machines we are driven to the gang way and brought inside the Amundsen. The ship is a confusing maze of laboratories, sleeping cabins, lounges, eating areas, storage and steep staircase after steep staircase that carry you up and down the numerous levels. I spend the first two days just trying to figure out where I am relative to my sleeping berth.

There are about 40 Coast Guard crew members and 26 scientists aboard the ship on this leg of the project. There is also space for media on each leg. At this time, there is a writer from Oregon working on a book as well as two U.S. documentary filmmakers hoping to turn their experience on the Amundsen into a feature film. I arrived with Peter Mansbridge, anchor of the CBC National News who traveled to the ship with a camera operator and two producers to do a number of stories about the project and Arctic climate change.

Severn welcomes the interest of the media and said it’s crucial the project be open to such scrutiny if the message of climate change is to get out to the general public.

“As scientists we can write all the papers we want,” he explained. “But it needs to get into the mainstream media if our work is going to have any impact at all with the general public.”

After dinner – the food, prepared by the Coast Guard chefs, is amazing – the scientists aboard the ship meet each evening to discuss their work and make plans for the following day. Organizing who is doing what and balancing the needs of a number of different researchers is a difficult task that falls to the chief scientist on board. On this leg, it’s Stern. Some researchers need the ship to move to get the samples they need, others wish the vessel to remain in place for a number of days to complete their work.

Fuel, which has to last until the summer, is a precious commodity so any decisions to move the ship must be made carefully. Right now, the ship is only moved if the ice pack surrounding it threatens to push the hull of the ship and trap it there long-term. Julien makes regular trips aboard the ship’s helicopter to assess the ice pack and determine when the ship needs to move. The ship eats up about 6,000 litres of fuel a day when stationary. That can increase by 10 times if the ship needs to blast through the thick ice around it.

On my first evening at the Amundsen, I join a pair of researchers from China who leave the ship to conduct some testing on the ice. They are using a bright fluorescent light to test the permeability of the ice’s surface to light. Within moments of leaving the warmth of the ship, I see a pure, white Arctic fox scurry past. It has no tail – perhaps the result of a run-in with another fox. A strip of green northern lights zig zags across the sky and a brilliant shooting star dashes past for effect. Massive floodlights from the ship sweep across the surface of the ice to protect the scientists from predators. It’s the only light in the darkness. Away from the beams of the floodlights, it is completely black and nearly silent. It feels like if you walked beyond the lights’ beam you’d drop right off the end of the earth. At this time of year, the moon hovers along the low edge of the sky. On this night it’s little more than a crescent balancing on the horizon. It’s bright red.

Anytime anyone leaves the ship, they must be accompanied by a wildlife monitor who joins the excursion with a shotgun across his back. On this leg of the trip the monitor is Trevor Lucas, an Inuit from the wee village of Sachs Harbour about 30 kilometres north of the ship on Banks Island. Lucas tells me that despite the wide open spaces, a polar bear can sneak up to within about 25 feet without being noticed. I stick close to Lucas.

The circumpolar flaw lead is a perennial characteristic of the Arctic. The CFL system is formed when the central ice pack moves away from coastal fast ice, opening a flaw lead which occurs throughout the winter season. Due to reduced ice cover, these regions are very sensitive to any changes in climate and provide a unique laboratory from which scientists can gain

Stocking up on the Amundsen

The CCGS Amundsen has to be prepared to feed and shelter an average of 80 people for over a year without any resupply. Here’s at look at some of what had to be brought on board:

- 25,000 kilos of meat
- 4,000 kilos of chicken
- 50 tonnes of frozen food
- 5,600 kilos of sugar
- 3,000 kilos of flour
- 2,000 kilos of powdered eggs
- 800 dozen fresh eggs
- 2,500 pounds of coffee
- 4,000 litres of juice
- 3,600 litres of fresh milk
- 750 litres of powdered milk
- 1,450 litres of ice cream

* It costs about $50,000 a day to operate the vessel
Insights into the changing polar marine ecosystem. The Amundsen will spend its time travelling in these flaw leads. It’s the first time any icebreaker has over-wintered in the system and Stern believes the research done here will be invaluable to the larger body of climate change data. Stern is proud that the University of Manitoba is taking such a leadership role in one of the most serious issues of our time.

“We are at the forefront of climate change issues in the Arctic,” he said of the University of Manitoba. “I tell all my students and prospective students, if you’re looking to do cutting-edge research in the Arctic, this is where it’s happening.”

While the CFL project and others like it are garnering increased media and public attention and support, that wasn’t always the case, said Stern. He attributes the change of heart to a general awakening of interest in global climate change on the part of the general public. He said people in more southerly climes are beginning to feel the impact of climate change and that has helped fuel additional interest.

Over the next five to 10 years, Stern said, current models show the decrease in sea ice will only increase.

Now we’re trying to find ways to help people adapt to the changes,” he said.

The next day, I head out with Stern and a handful of researchers to collect ice cores from the sea ice. Moving by snowmobile to an area some distance from the ship, researchers carry their gear in toboggans attached to the snow machines. Stern and others use a giant corkscrew to twist down into the 75 centimetre thick ice. When they pull the corkscrew up, it brings with it a perfect, round cylinder of the ice. The cylinders are put in plastic bags and carried back to the ship in coolers which, given the minus 24 degree temperatures, seems a bit redundant. Once back at the cold lab at the ship, the cores are sliced and sampled. These samples will be looked at to see how carbon and nutrients are moving through the ecosystem. They will also be assessed to determine when and how ice is forming and for contaminants like pesticides and mercury.

Inside the ship there is a moon pool, a trap door which allows scientists to pull water samples from the ocean. These researchers are studying tiny forms of marine life like bacteria and phytoplankton and viruses. Occasionally, a curious seal or two have been known to stick their heads up through the moon pool to the delight of the researchers.

On my last day on board, the captain decides it’s time to move the Amundsen. The ship begins to rumble underneath me like a weak earthquake as the engines are engaged and the ship begins to move through the ice. The sound of the slabs of ice crashing against the hull of the ship is deafening and resembles at times the sound of running shoes tumbling in a dryer and at others the screeching of two pieces of Styrofoam being scraped together. The entire ship rumbles and vibrates. As we move through the larger, thicker pieces of ice, most of the slabs resign themselves to their fate, breaking apart and drifting quietly. Others rise up defiantly against the sides of the ship before being dragged down by the surging sea water being churned up by our progress. Some of the pieces are at least a metre thick and have a soft blue tone to their undersides. The thinnest ice undulates with the moving water and cracks like peanut brittle when the movement becomes too violent. The ship leaves a wake of slushy soup behind us. Everything is shades of white, grey and soft blue. Looking at the horizon, it’s difficult to establish where the sea ends and the sky begins.
Students love northern exposure

Dustin Isleifson loves his work so much he’s given a name to the machine he uses to conduct microwave remote sensing of sea ice. He calls his scatterometer, “Selena” and he spends a lot of time working with “her” in a cold, plywood shack on the deck of the Amundsen icebreaker.

Isleifson is a PhD student in electrical engineering. He spent three weeks in December aboard the Amundsen as part of the team of University of Manitoba scientists conducting climate change research in the Circumpolar Flaw Lead System Study (CFL) which is underway until August.

In his research, Isleifson uses the scatterometer – which looks like a radar dish – to scan a marked area of sea ice just off the side of the ship. He’s carefully measured out the half-circle of area and erected a fence to ensure no other researchers venture over it. He can’t afford to lose control of the Arctic ice, which makes a regular visit depend on the thickness and density of the ice. Isleifson hopes his work will help satellites become more precise in their ability to identify what they are sensing on the earth. Ideally, satellites will one day use Isleifson’s work to detect and track sea ice movement and be able to compare it year over year.

Isleifson is also building a database of ice samples so he can predict what a satellite will identify even where no data exists.

Isleifson didn’t anticipate spending weeks at a time in the middle of the Arctic Ocean on an icebreaker when he began his engineering studies at the University of Manitoba. He assumed he’d one day take a job at Manitoba Hydro or another utility. But he became interested in this field and hasn’t turned back. He hopes one day to become a professor and nurture the next generation of scientists.

“It’s pretty awesome and so rare to have an opportunity to do this,” he said. “I can now see how my work fits into the bigger picture and see the practical application of it.”

Isleifson plans to return to the Amundsen for another leg of study sometime in the New Year.

Matthew Asplin, a PhD student in the department of environment and geography, also had no intention of working on a climate change researcher. When his wife was accepted to the Faculty of Medicine at the University of Manitoba, Asplin, who had obtained his masters degree in atmospheric science at the University of British Columbia, decided to see whether there was application of it.

“Everyone wants to be here. Everything here is linked. I feel like we’re living on the Discovery Channel.”

Matthew Asplin, PhD student, University of Manitoba PhD students Dustin Isleifson, above, and Matthew Asplin are on board the Amundsen collecting the raw data they’ll need to complete their studies.

Asplin is part of the University of Manitoba team participating in the CFL study aboard the Amundsen. He is studying the control weather systems have on the ice in the Arctic and on energy and water transport. Asplin is looking at how more open water – as a result of the loss of sea ice – will affect surface climate in the area. He is also looking at how the entire ice pack responds to weather patterns, how they drive the ice around and whether they may be contributing to loss of sea ice by fanning the ice out and into the north Atlantic Ocean.

While on the ship, Asplin sends up weather balloons to get a picture of the temperature, wind speed and humidity. He also looks at wind shear – the changes in wind speed or direction at altitude – which is necessary for the development of storms. Asplin has also helped to place a number of beacons in the sea ice which transmit signals to a University of Manitoba e-mail account with their position so researchers can track the movement of the ice.

Like Isleifson, Asplin loves the collaborative aspect of the CFL project.

“Everyone wants to be here,” he said of the international group of scientists on board. “Everything here is linked. I feel like we’re living on the Discovery Channel.”

Follow your dreams and you never know where you might end up.

For U of M graduate Teresa Fisico, going with her dreams has taken from the edge of the Arctic Circle and to the news desk at CBC’s new Weather Centre. She was at the University of Manitoba last month to present her master’s thesis defence.

“It went really well. I was happy with the end product,” Fisico said. She is an example of the sort of graduates the University of Manitoba has been turning out over the last few years, thanks to the growth at the Centre For Earth Observation Science.

She came to the University of Manitoba from York University. Her undergraduate degree had left her intrigued by atmospheric science and when she talked to her advisor at York University, he had one recommendation for her – go to the University of Manitoba.

“If you want to do research in the Arctic, this is where you come,” Fisico said. She was onboard the Amundsen in 2004 when it was taking part in the CASES studies. During the study, the Amundsen locked in the ice for a full season. Fisico was onboard for three months. Her own work linked computer models to the hands on information she was able to get while onboard the Amundsen.

“A lot of time when we do research we rely on model data, I wanted to see how well those models did represent the actual conditions,” Fisico said.

Fisico said the 80 people onboard the ship formed a tight-knit community while she was on board.

“It’s beautiful up there,” Fisico said. “I would do it again in a heartbeat. We broke out on June 1 and I was onboard. It was pretty emotional.”

She was back at the university working through her own data when CBC came calling. It was looking to set up a new weather centre and wanted meteorologist to give the centre its expertise. Fisico, who has a flair for communications and the scientific grounding to make her an expert in the field was a natural fit. The ironic twist is that Fisico swore when she was kicking off her university career that she wasn’t going to be a weather girl – thankfully the field has grown so that today’s meteorologists are doing far more than just reading off the weather data.

The business of launching a new weather centre keeps Fisico away from her studies, but she came back last year to wrap things up.

“As anyone who has worked on a graduate degree can tell you, organization is key. You have to get back into the mindset. There is so much data to go through, it took me two or three weeks just to get back up to speed,” Fisico said.

With the master’s degree done, Fisico said she’s enjoying the downtime and heading back to CBC. But if she ever does return to research, she says there’s plenty of options right now.

“Whether it’s the CFL study or Arctic Net there are tones of opportunity,” Fisico said.

And all of that means that for Fisico, whether it be at CBC or on the Amundsen, this is a good time to be in weather.

Graduate Teresa Fisico has parlayed her experience aboard the Amundsen into a career with the CBC Weather Network.
January 10, 2008

Ancient craft, modern research

A Day in the Life of a glassblower

BY DALE BARBOUR
The Bulletin

Glassblowing isn’t just a job for Lesa Cafferty, it’s a family tradition.

So when she took on the position of scientific glassblower with the department of chemistry in 2006, she was treading on familiar ground.

“I grew up with glassblowing in my house as my dad James Cafferty was a scientific glassblower,” Cafferty said. “He apprenticed in England, then immigrated to Canada when Atomic Energy of Canada Ltd opened in Pinawa.

Apart from his day job at Atomic Energy, Cafferty’s father was an artistic glassblower, so as Caffrey grew up, she learned that that glass could be shaped and modeled to whatever whim or fancy the glassblower might imagine.

“For us, this was just normal,” Cafferty said. But she did love what he was doing, and after graduating from high school she signed on to apprentice with him at Atomic Energy – taking on the full time position herself when he retired in 1999.

“And Dad and I, we’re more than father and daughter, we’re the best of friends so working together was an absolute dream,” Cafferty said. “There was never any conflict or discomfort.”

Cafferty worked with Atomic Energy until 1998 when she was caught in

round of lay offs that went hand in hand with its downsizing. There was work to be had in the field, but it would have meant moving and Cafferty said she just wasn’t ready to do that.

“I didn’t want to leave here,” Cafferty said. “My family and friends were here and I love the province.”

So instead, she opened her own shop and did glassblowing part time for clients, while working in a range of other jobs. And that was status quo until the University of Manitoba – the only place employing a glassblower in Manitoba – gave her a call in 2006 to announce that it had an opening. Retiring glassblower Ian Ward had apprenticed under James Cafferty as well and had been sending his extra work to Lesa. She was a natural fit over the position.

The typical beakers, flasks and test tubes that are the bread and butter of a chemistry lab can be purchased over the counter. The products that Cafferty produces include electrochemical cells, dewer vessels, vacuum wacks, and sealed electrodes. Often the equipment is tailor-made to suit the needs of a particular experiment.

In fact the more offbeat the project the better. “I’m always looking for challenges,” Cafferty said. “I love trying something new.”

“There’s not a lot she can’t do and most times the challenge is getting people to realize just how flexible the glasswork can be. Still, there are people who want to push the envelope.

“I had one student come in with small grade wiring and he wanted me to seal it in glass. But the problem is the small grade wire would melt if you tried to encase it in glass,” Cafferty said. “So what we had to do was sit down and come up with a different way to make his project work and it was a nice challenge to work with him to find a way to accommodate what he actually needed.”

There’s also grant work to the job, but it’s critical in helping save the university money.

When flasks or beakers get dinged in the classroom, Cafferty steps in to patch them up.

“Unless it’s a case where the container is absolutely shattered I can fix 99 per cent of the glassware,” she said.

Fixing a chip on a beaker is straightforward and a few minutes work. Between set up and work time, other projects can take hours.

“I used to do a lot of electro-chemical cells, where you have a beaker encased in another beaker so that the researcher can create a water jacket around the inner beaker,” Cafferty said. Glass encased electrodes lead in and out of the inner cell to complete the circuit.

“Those projects can take hours to complete because once you start you can’t stop until you’re completely done.”

While she grew up in the business, Cafferty says she’s still impressed by what a glassblower can do.

“T think it’s fascinating that you can take glass and turn it into something completely different. I still step back and wonder how is that possible?”

Program bolsters 23,000 scholarships

The Province of Manitoba introduced the Manitoba Scholarship and Bursary Initiative (MSBI) to the University of Manitoba in 1997 and since then the program has gone on to be the most successful donor award matching program the university has ever seen.

In fact, the program has been so successful at attracting donors and designing their gifts for student awards that demand for matching funds has far exceeded expectations.

“MSBI is an enormous incentive to prospective beneficiaries,” said president Dr. Eisenke Szathmáry. “Many donors indicate they want their gifts to go to a specific program the university has ever seen. Individual scholarships and bursaries have been awarded from funds that have benefited from MSBI matching funds.

“The Manitoba Scholarship and Bursary Initiative further demonstrates our commitment to ensuring access to post-secondary education for all Manitobans,” said Minister of Advanced Education and Literacy Diane McLeod. “Combined with affordable tuition and other generous bursary and scholarship programs, the Manitoba Scholarship and Bursary Initiative will help institutions with long-term planning and ensure students continue to receive an affordable, accessible, high-quality education.”

You can beat winter

The University of Manitoba’s Delta Marsh Field Station is offering two sessions of its annual Northern Lifestyles and Winter Survival Workshop, Jan. 18 to 20 and Jan. 25 to 27.

The course is designed for travelers and persons whose occupations expose them to winter Arctic conditions: winter hunting enthusiasts and teachers of outdoor survival skills. It is also designed for persons wishing to become more aware of northern sociological and environmental issues.

The cost of the workshop, including registration, instruction and room and board is $155 per person or $125 per person for family/student rates.

For more information please call 1-866-770-5372 or e-mail hdenihan@ cc.umanitoba.ca

This Lunch Hour

Doug Buchanan
Professor, Electrical and Computer Engineering
Canada Research Chair in Microelectronic Materials

The Engineering of Physics and Chemistry

The performance of electronic devices has progressed to the point where spatial dimensions have shrunk well into the domain of nanotechnology. This has required the understanding and application of physics and chemistry to at least the molecular and, indeed, the atomic level. In this presentation Dr. Buchanan will describe the use of atomic scale materials for traditional silicon-based micro and nano-electronics. He will also discuss interdisciplinary research into silicon-based materials, devices and processing techniques and their application to polymeric optical sensors and microfluidics.

Thursday, January 24, 2008
12:00 noon
Private Dining Room
The University Club, Pembina Hall

S$15/person (lunch provided)
Registration is required
To reserve your seat contact Kim Stefanik at 474-9020

This series is sponsored by the Office of the Vice-President (Research)
Bison Sports

**MEN’S VOLLEYBALL**

- Jan. 12 – Trinity Western at Manitoba, Investors Group, 3 p.m.
- Jan. 13 – Trinity Western at Manitoba, Investors Group, 2 p.m.
- Jan. 16 – Brandon at Manitoba, Investors Group, 8 p.m.
- Jan. 19 – Brandon at Manitoba, Investors Group, 8 p.m.
- Jan. 25 – Brandon at Manitoba, Investors Group, 8 p.m.

**WOMEN’S VOLLEYBALL**

- Jan. 12 – Brandon at Manitoba, Investors Group, 1 p.m.
- Jan. 13 – Trinity Western at Manitoba, Investors Group, 1 p.m.
- Jan. 18 – Brandon at Manitoba, Investors Group, 6 p.m.
- Jan. 19 – Brandon at Manitoba, Investors Group, 6 p.m.

**MEN’S HOCKEY**

- Jan. 25 – UBC at Manitoba, Max Bell, 7 p.m.
- Jan. 26 – UBC at Manitoba, Max Bell, 7 p.m.

**WOMEN’S HOCKEY**

- Jan. 11 – Saskatchewan at Manitoba, Max Bell, 7 p.m.
- Jan. 12 – Saskatchewan at Manitoba, Max Bell, 7 p.m.

**MEN’S BASKETBALL**

- Jan. 11 – Saskatchewan at Manitoba, Investors Group, 8:15 p.m.
- Jan. 12 – Alberta at Manitoba, Investors Group, 8:15 p.m.
- Jan. 25 – Brandon at Manitoba, Investors Group, 8:15 p.m.
- Jan. 26 – Brandon at Manitoba, Investors Group, 8:15 p.m.

**WOMEN’S BASKETBALL**

- Jan. 11 – Saskatchewan at Manitoba, Investors Group, 6:15 p.m.
- Jan. 12 – Alberta at Manitoba, Investors Group, 6:15 p.m.
- Jan. 25 – Brandon at Manitoba, Investors Group, 6:15 p.m.
- Jan. 26 – Brandon at Manitoba, Investors Group, 6:15 p.m.

**TRACK AND FIELD**

- Jan. 16 – Grand Prix #3 at U of M, Time TBA.
- Jan. 25–26 – Grand Prix #4 and #5 at U of M, Time TBA.

**TICKET INFORMATION**

- Single Game: Adults $20, Students $10
- Packages available

Tickets available at all Bison home games, Frank Kennedy, Max Bell Equipment Desk.

You call this Romance?

It’ll be a free-for-all, no-holds-barred court case, where you never really know who, or what, is on trial when the Black Hole Theatre Company takes to the Gas Station Theatre Stage for Mametfest later this month.

The Black Hole Theatre Company is presenting David Mamet’s most recently published play, *Romance*, as its contribution to the Manitoba Theatre Centre’s Master Piarlworth Festival.

In a New York courtroom, we witness a maniac pill popping judge, a gay prosecutor squabbling with his lover and a defense attorney swapping racial slurs with his Jewish chiropractor client at the same time as a Middle East peace conference is taking place.

*Romance* is being directed by U of M theatre professor Bill Kerr, whose most recent directing contribution to the Black Hole Theatre was *Ah, Wilderness* for O’Neill/Gui in 2000.

The show will be performed nightly at the Gas Station Theatre, River and Osborne in Osborne village, with performance times on Jan. 17, 18, 21, 23 to 25 at 8 p.m. and on Jan. 19, 22, and 26 at 7 p.m. There will be matinee performances on Jan. 19 and 26 at 2 p.m.

Tickets cost $11 for adults and $9 for students and seniors. Tickets can be purchased at the door. MametFest Passes can be used at the door.

**Events Listing**

**Fort Garry Campus**

**THURSDAY, JANUARY 10**

**Book Launch: THE RED INDIANS**

- Tales from the History of Aboriginal People’s Struggles in Canada by Peter Kaluchy, Native studies, Rudolf Rocker Cultural Centre, 91 Albert Street, 7 p.m., Thursday, Jan. 10.

**Research, Plant Adaptation in a Changing Climate by Robert Hill, professor of plant science, and 2007 recipient of the Dr. John M. Bowman Memorial Winnipeg Rhodes Institute Foundation Award, 343 Drakie Centre, 8 p.m., Thursday, Jan. 10.

**FRIDAY, JANUARY 11**

**Elisabeth Dafoe Library Graduate Student Lecture Series**, Monstrous Corporality and the Spectre of Unsanctioned Sexuality: Drawing the Line in the *Flesh and Blood* Women in Dracula by Sheila Simonson, English, Tecler Reading Room, Third Floor, Elizabeth Dafoe Library, 12:30 p.m., Friday, Jan. 11.

**Chemistry, Title TBA by Cyrus Shahaf, department of electrical and computer engineering, 539 Parker Building, 2:30 p.m., Friday, Jan. 11.

**Institute for the Humanities, What’s a Girl to do when her Mode of Production and the Potency of the Men who ran it are Gone with the Wind and the Historical Materialist Melodrama of Scarlett O’Hara by Robert Chernomas, economics, 409 Tier Building, 2:30 p.m., Monday, Jan. 14.

**TUESDAY, JANUARY 15**

**Physics and Astronomy, Postironium ion: a three-body problem in QED by Andrzej Czarnecki, department of physics, University of Alberta, 350 Allen Building, 2:30 p.m., Tuesday, Jan. 15.

**WEDNESDAY, JANUARY 16**

**Disability Studies, Advertising Blindness: Books by Blind Poets in Eighteenth- and Nineteenth-Century Britain, part of the Getting to Know Disability Studies Lunch Series**: 22 Education Building, 12 p.m., Wednesday, Jan. 16.

**Nursing Research Seminar Series, The Oncology Nurse Role: Is There Room for Change in Our Future? by Dauna Crooks, dean, Faculty of Nursing, 370 Helen Glass Centre, 12 p.m., Wednesday, Jan. 16.

**MONDAY, JANUARY 14**

**Institute for the Humanities, What’s a Girl to do when her Mode of Production and the Potency of the Men who ran it are Gone with the Wind and the Historical Materialist Melodrama of Scarlett O’Hara by Robert Chernomas, economics, 409 Tier Building, 2:30 p.m., Monday, Jan. 14.

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Bannatyne Campus
AND ST. BONIFACE RESEARCH CENTRE

Medical rounds are typically targeted at university staff and professionals directly involved in the medical field.

THURSDAY, JANUARY 10
Immunology Annual Graduate Student Research Presentations with Neophron in Immunology Library 605 Basic Medical Sciences Building, 12 p.m., Thursday, Jan. 10.

FRIDAY, JANUARY 11
Community Health Sciences Colloquium Series, Primary Care Reform in Manitoba: Are We Getting it Right? by Alan Karz, associate professor, departments of community health sciences and family medicine, associate director, Manitoba Centre for Health Policy, Dr. Betsy Havens Seminar Room, Room 605 Brodie Research Station Building, 12 p.m., Friday, Jan. 11.

MONDAY, JANUARY 14
Infectious Diseases and Medical Microbiology, Costimulation against infection: Chlamydia Paradigm by Kamran Kadhoda, S40 Basic Medical Sciences Building, 9 a.m., Monday, Jan. 14.

THURSDAY, JANUARY 17
Pediatric Grand Rounds, Topic TBA by Denise Bell, clinical associate professor. Pediatric Hematology/Oncology, University of Manitoba. Pediatric haematology/oncology, The University of Texas Health Science Center at San Antonio. Basic Medical Sciences Building, linked to 605 Brodie Centre, 12 p.m., Thursday, Jan. 17.

Pediatric Research Rounds, Early Childhood Caries by Robert Schrott, 500 John Buhler Research Centre, 12 p.m., Thursday, Jan. 17.

SUNDAY, JANUARY 20
School of Medical Rehabilitation Open House, Drop in to find out more about the Respiratory Therapy, Occupational Therapy and Physical Therapy programs, 12:30 to 5 p.m., Sunday, Jan. 20.

Workshop wants top researchers

Writing New Histories of Indigeneity and Imperialism: A Workshop will provide emerging scholars with an opportunity to collaborate with other scholars working in this field. It will be held at the University of Manitoba, Winnipeg, Manitoba, Canada, from May 21 to 25. Participants will be asked to provide a 25 to 25-page research paper and/or chapter in advance of the workshop, which will be shared and engaged with by the group in a seminar format with the goal of providing all participants with valuable new perspectives, mentorship and professional development. Participants will also go on field trips and work in various capacities with both emerging scholars and faculty. Core faculty at the workshop will include Sherry Farrar-Racette (Concordia), Adele Perry (University of Manitoba) and Sarah Carter (University of Alberta).

This workshop seeks applications from PhD candidates in the final phase of their studies (ie ABD) and those who have recently completed their doctorates (ie in the last two years).

Please send a one-page curriculum vitae and a one-page description of your research directly to Adele Perry or Mary Jane McCallum at newhistories@hotmail.com by Jan. 15.

For more information on the workshop please see umanitoba.ca/faculties/arts/history.

Arts & Entertainment

GALLERY ONE ONE ONE

Gallery One One One is located on the main floor of the Fort Garry Building. It is open Monday to Friday, noon to 4 p.m.

RICHARD CONDIE: A RETROSPECTIVE
February 7 to March 7

Organized by Gallery One One One and the University of Manitoba Archives and Special Collections, this exhibition will comprise a retrospective of Richard Condie, an Academic Award nominated animation animator. The CD-ROM and web site for this exhibition will include exhibits by film historian Gene Walz and University of Manitoba archivist Shelley Sweeney. In addition to showing Condie’s ‘The Big Snit’ and ‘Toss the Pbook’, this show will exhibit for the first time a selection of Condie’s animation cels, pencil drawings, dope sheets, as well as background paintings by Condie’s sister, Sharon Condie. This exhibition will be supported with a reception sponsored by the National Film Board of Canada. Gallery One One One will produce a web site and CD-ROM for this exhibition. There will be an opening reception 5 to 8 p.m. on Thursday, Feb. 7.

THE BLACK HOLE THEATRE

The Black Hole Theatre is located in the lower level of University College. For tickets call 474 6880.

ROMANCE by David Mamet

Jan. 17, 18, 21, 23 to 25 at 8 p.m.

Jan. 19, 22, and 26 at 7 p.m.

Matinee Jan. 19 and 26 at 2 p.m.

David Mamet’s most recent play. Presented at the Gas Station Theatre as part of MTC’s MametFest 2008. A black farce, and quite possibly Mamet’s most outrageous play. A court case is continually interrupted by the personal obsessions and perversions of all the characters (including the judge) and by attempts to bring peace to the Middle East. Warning: Language (this is Mamet after all), truly offensive opinions. Directed by Bill Kerr.

ARCHITECTURE

Main Floor, Architecture II Building. Gallery hours are Monday to Friday, 8:30 a.m. to 4:30 p.m.

SAD

SPMR PROJECTS WITH MATTHEW BAKER

January 4 - February 4

John A. Russell Building Court Yard

Recurrent winter depression, or Seasonal Affective Disorder (SAD), is caused by the reduction of Melatonin secretion in the body due to significant environmental light reduction in the winter, giving the body extra drowsiness, bluesy moods, and so on. The clinical consensus recommends light therapy as a first-line treatment for SAD. This project for the J. A. Russell courtyard, while not clinically measured, takes cues from Winnipeg’s dirty realism of short days, weather muddle, and iconic mobile signs to transform the space in a hybrid light-bright setting, located inbetween the aetecric aesthetic of the fluorescent tube and the blushiness of the strip mall drive-by. There will be an opening reception 5 to 6:30 p.m., on Jan. 17.

Faculty of Music

The Faculty of Music hosts recitals and performances at Eva Clare Hall, located within the Faculty of Music building on Dafoe Road. Recitals and events are free unless otherwise noted.

Music events

• Opera Workshop - Gas Station Theatre - 445 River Avenue; Tickets will be sold, 8 p.m., Jan. 11.

• Dean’s Reception, Contemplating the Art of Teaching: Sharing Common Goals with Edmund Dawe, Music dean, Eva Clare Hall, Faculty of Music Building, 1:30 p.m., Saturday, Jan. 19. Please advise by Jan. 15 if you plan to attend 474 6726 or olexara@cc.umanitoba.ca.

• New Music Experimental Improv Ensemble - Mondragon Bookstore & Coffee House - 91 Albert Street, 6 p.m., Thursday, Jan. 10.

• Opera Workshop - Gas Station Theatre - 445 River Avenue, 8 p.m., Friday, Jan. 11. Tickets will be sold.

• Opera Workshop - Gas Station Theatre - 445 River Avenue, 8 p.m., Saturday, Jan. 12. Tickets will be sold.

• Music at Mid-Day - Aududeck Hall, recital hall, piano, 12:30 p.m. to 1:30 p.m., Thursday, Jan. 17.

• Music at Mid-Day - Bob MacLaren, Amanda Dawe, Laura Loewen, 12:30 p.m. to 12:45 p.m., Friday, Jan. 18.

• Music at Mid-Day - Guest Artists, Thomas Wiebe, cello, Megumi Masaki, piano, 12:30 p.m., Monday, Jan. 21.

• Jazz Orchestra - Guest Trumpet - Brad Turner - Location TBA, 7:30 p.m., Jan. 25. Tickets will be sold.

Advertise in the Bulletin

For details call 474 8111
Seminars aim to streamline transport industry

The Transport Institute at the University of Manitoba is searching for ways to make trucking more efficient. A green goal: slash truckers’ pay and help the environment stay healthy.

The Transport Institute is holding two “Innovative Freight Practices Seminars,” which hope to identify urban goods sustainable transportation best practices and solutions designed to improve operating efficiencies, reduce greenhouse gas emissions (GHG), reduce noise and congestion. The goal is to improve the community’s quality of life by introducing local small and medium-size (SME’s) urban commercial fleet operators to innovative: a) trip scheduling, b) load matching, c) vehicle routing, d) vehicle fleet operation and maintenance, and e) driver’s education programs.

The seminars will improve operating efficiencies by optimizing local routing of commercial freight through the use of digitized mapping technology. This initiative encourages local delivery companies to adopt efficient truck routing practices and to reduce gas emissions.

The seminars draw expertise from Winnipeg’s Showcase – a three-level government sustainable transportation initiative. For more information on the seminars, visit www.tiirc.ca or call 474-6299 or at viaela@cc.umanitoba.ca. For more information please contact Jairo Villala, researcher at 474 6299 or at javierl@cc.umanitoba.ca, and/or Doug Duncan, research director at 474 7072 or at duncand@cc.umanitoba.ca. Information about the conferences will be available at www.umt.ca.

ACADEMIC JOB OPPORTUNITIES

FACULTY OF MEDICINE
Department of Clinical Health Psychology
Winnipeg Regional Health Authority and Selkirk Mental Health Centre
Position: Forensic clinical psychologist (adults) based in Winnipeg and St. Boniface.
Application deadline: Feb. 26
Position number: 05194
For information: Dr. Jerry Friend, chair, Department of Mental Health, R3E 3J7

Department of Clinical Health Psychology
Winnipeg Regional Health Authority (WRHA)
Position: Contingent geographic full-time psychologist at the assistant professor level in the area of rural community clinical psychology, based in Steinbach
Application deadline: Feb. 29
Position number: 06957
For information: Dr. Richard Sigurdson, chair, Department of Psychiatry, 730 William Ave., Winnipeg, MB, R3E 0T6, phone 789 3418, fax 789 3927, e-mail pchoy@cc.umanitoba.ca.

Department of Clinical Health Psychology
North Eastman Health Association
Position: Contingent Geographic Full-Time Psychologist at the Assistant Professor level in the area of Rural Community Clinical Psychology, based in Beausejour.
Application deadline: Feb. 29
Position number: 06038
For information: Dr. Richard Sigurdson, chair, Department of Psychiatry, 730 William Ave., Winnipeg, MB, R3E 0T6, phone 789 3418, fax 789 3927, e-mail pchoy@cc.umanitoba.ca.

Department of Internal Medicine
Section of Nephrology
Winnipeg Regional Health Authority
Position: Section of Nephrology head and medical director of Manitoba Renal Program
Application deadline: March 31, 2008
Position number: 07373
For information: Dr. Patrick Choy, associate dean (research), Faculty of Medicine, University of Manitoba, 730 William Ave., Winnipeg, MB, R3E 3J7, phone 789 3575, fax 789 3921, e-mail pchoy@cc.umanitoba.ca.

Department of General Internal Medicine
Winnipeg Regional Health Authority
Position: Faculty position in regenerative medicine
Application deadline: Feb. 29
Start date: July 1
Salary: Salary and the rank of associate/ professor will be commensurate with qualifications and experience

Department of Obstetrics and Gynecology
University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2

Department of Radiation Oncology
University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2

Department of Population Health
University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2

Department of Physical Therapy
University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2

FACULTY OF ARTS
Department of Native Studies
Winnipeg Studies Program
Position: Assistant professor, gender studies, and professor of Indigenous women and men, including members of visible minorities, Aboriginal peoples, and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.
Application deadline: Feb. 1
Position number: 07061
For information: Dr. Janice Ristock, Chair, Faculty of Arts, University of Manitoba, 201 Russell Bldg., Winnipeg, MB, R3T 2N2, phone 474 6424, e-mail chardn@cc.umanitoba.ca.

FACULTY OF ARCHITECTURE
Position: Assistant professor, department head and professor of sustainable architecture
Application deadline: March 1
Position number: 08052
For information: Dr. Jerry Friend, chair, Department of Architecture, University of Manitoba, 201 Russell Bldg., Winnipeg, MB, R3T 2N2

FACULTY OF ARCHITECTURE
Department of Sustainable Architecture
Winnipeg Studies Program
Position: Assistant professor, gender studies, and professor of Indigenous women and men, including members of visible minorities, Aboriginal peoples, and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.
Application deadline: Feb. 1
Position number: 07061
For information: Dr. Janice Ristock, Chair, Faculty of Arts, University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2.

Department of Philosophy
Department of Political Science
Position: Assistant professor, department head
Application deadline: March 1
Position number: 07710
For information: Dr. Janice Ristock, Chair, Faculty of Arts, University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2.

Department of Sociology
Position: Department head
Application deadline: March 1
Position number: 07710
For information: Dr. Janice Ristock, Chair, Faculty of Arts, University of Manitoba, 307 Fletcher Argue Building, Winnipeg, MB, R3T 2N2.

Department of Psychology
Position: Research associate
Application deadline: Feb. 20, or when an appropriate candidate will be available to commence employment
Salary: Commensurate with experience
Application deadline: Feb. 10
Position number: 07385
For information: Elyse Shevchuck, academic search committee, Department of Psychology, University of Manitoba, PZ-077 3876, fax 787 3876, e-mail pchoy@cc.umanitoba.ca.

Department of Clinical Health Psychology
Winnipeg Regional Health Authority (WRHA)
Position: Contingent geographic full-time clinical psychologist (child) at the assistant professor level, based at the Health Sciences Centre
Application deadline: Feb. 2
Position number: 06957
For information: Dr. Richard Sigurdson, chair, Department of Psychiatry, 730 William Ave., Winnipeg, MB, R3E 3J7, phone 789 3575, fax 789 3921, e-mail pchoy@cc.umanitoba.ca.

Department of Internal Medicine
Section of Nephrology
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Position: Section of Nephrology head and medical director of Manitoba Renal Program
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For information: Dr. Patrick Choy, associate dean (research), Faculty of Medicine, University of Manitoba, 730 William Ave., Winnipeg, MB, R3E 3J7, phone 789 3575, fax 789 3921, e-mail pchoy@cc.umanitoba.ca.

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FACULTY OF MUSIC
Position: Assistant professor in woodwinds (saxophone/bassoon specialization)
Application deadline: Feb. 10
Position number: 07078
For information: Dr. Jerry Friend, chair, Department of Music, University of Manitoba, 65 Donald Road, Winnipeg, MB, R3T 2N2, e-mail ejteech@cc.umanitoba.ca.

FACULTY OF MUSIC
Position: Assistant professor in woodwinds (saxophone/bassoon specialization)
Application deadline: Feb. 10
Position number: 07078
For information: Dr. Jerry Friend, chair, Department of Music, University of Manitoba, 65 Donald Road, Winnipeg, MB, R3T 2N2, e-mail ejteech@cc.umanitoba.ca.

VISITING TORONTO?
Stay with us at Ashleigh Heritage Home, a downtown B&B near U of T.

BABYSITTER WANTED: Needed a babysitter for our two children from 2:30 to 5:30 PM (Monday-Thursday).
Contact: joliefille26@hotmail.com or 219-2525.

The Bulletin welcomes Classified Ads. The rate for ads is $5 for the first 45 words.

Classified Ads

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The Bulletin

January 10, 2008
A concrete idea takes on a new shape

By Sean Moore

Research Promotion

Until architecture’s Mark West altered a design process, concrete was not a medium readily used to display or create elegant and beautiful building components. But thanks to his flexible fabric membrane construction, the words sensual and concrete can be used in the same sentence, and this is good news for architects and artists—and even engineers. In the late 1980s West took polypolypropylene sheets, a new material at the time, and began shaping concrete. It started as a sculptural practice, but he soon realized that this process could be used in building design.

These membranes offer resistance only through tension, and the resulting geometries they create are of a natural, and so highly efficient order. And since natural forces move through matter in curved paths, building supports can now be formed to follow these paths, thereby reducing materials consumed in construction.

“It started with the beauty of these things cast in the fabric,” West said. “But there were these sustainability, beauty and ease of construction aspects that made it worth investigating for building applications. And when we investigated it, we found that it works really, really well.”

Working out of the Centre for Architectural Structures and Technology (C.A.S.T.) lab, a unique architectural research facility, West has developed a way to use single, unaltered polypolypropylene sheets in shaping concrete into various forms.

The method not only uses hundreds of times less material to create the formwork molds, but it allows for an expansion of creative visions. In essence, the lab is creating a new language through which architects can communicate. With this new language comes the ability to express new ideas, and there’s no shortage of those.

“I think I would like to stop doing this work,” West said. “I don’t want to be a fabric mold guy till I die. But the problem is, there appears to be no end in sight to the things that can do.”

So if this method marries pragmatism, why isn’t every new building incorporating it? Because, West said, the construction industry is very conservative; buildings are some of the most capital-intensive things we make and contracts go to the lowest bidder who is keen to try something new when profit margins are so small. But West has a background in construction and has developed this method with builders in mind—the new process requires minimal training, and the reusable, easily transported formwork fabrics are less than a tenth of the cost of formwork plywood.

As for architects, West said they have long had an appetite for new materials and forms. What’s more, cooking up the design is simple.

In the lab, a lead-knitted string droops in a natural parabola in front of a wood board. When West needs to calculate the shape of a beam, he hangs fishing weights on it in the corresponding load areas and the string instantly displays the optimal shape of resistance. He then sprays paint over the string, stenciling the pattern on the wood for him to cut into the mold.

“This is really basic stuff but it’s amazing how few people work in basic terms. Builders, though, work basically in a limited space. I am always in search of the simple builder’s solution because I admire them so much. And this method gives us the form of a resistance in a very simple, beautiful way.”

The challenges of developing a vaccine

By Sean Moore

Research Promotion

Nearly everyone on the planet will, at some point, have a run in with a species of Chlamydia, an obligate intracellular bacterium that mainly infects epithelial cells.

There is no vaccine against the two common species that cause human diseases, but Xi Yang, Canada Research Chair in Infection and Immunology, has recently made some profound discoveries that will impact the development of one.

About 150 million people worldwide suffer from Chlamydia trachomatis. It breeds under eyelids and causes so much inflammation and scarring that eyelashes turn inwards and begin scratching the cornea; blindness usually results. It is also a sexually transmitted diseases that can cause pelvic inflammatory diseases and infertility. C. muridarum is a species of this bacterium used to study the pathogenesis of C. trachomatis infection in research.

The second species infecting humans is C. pneumoniae, which causes mild pneumonia and appears to be linked to cardiovascular and neurological diseases. Half of all people in their 20s have been exposed to it. By the time you’re a senior, you’ve likely hosted it at least once.

Yang wants to know how and when a body defends itself from Chlamydia. He uses gene knockout mice to study the cellular and molecular basis of immune responses to the different strains with the goal of developing a vaccine. He’s paying particular attention to the correlation that certain cells have with protection and pathology.

Antibodies, Yang has found, offer little protection. But cell-mediated responses seem to provide better protection. This immune-response uses T cells, which develop in the thymus and come in a variety of types, with each impacting health in different ways—sometimes good, sometimes bad.

“When we talk about immune response, we mostly think of it as being very positive effects, but certain immune responses to Chlamydia can be harmful,” Yang said.

What has become of particular interest to him is Natural Killer T cells (NKT). These cells job description straddles innate immunity and adaptive immunity.

“People believe NKT cells play a protective role in host defense. But there is a very interesting finding from our lab. What we found was for one type of Chlamydia NKT is protective, but for another type it promotes infection. Isn’t that weird?”

When NKT-free knockout mice were infected with C. muridarum they fared better than the normal mice. Conversely, NKT-free knockout mice developed serious symptoms (compared to normal mice) when infected with C. pneumoniae.

This discrepancy happens because NKT cells modulate T cell responses. Different Chlamydia strains cause NKT cells to signal T cells in different ways.

The pneumoniae strain makes NKT cells activate Th1 cells – a particular type of T cell. The more Th1 a host produces, the better it will battle the bacterium. So here NKT cells are vital. The muridarum strain, however, causes the NKT cells to activate cells called Th2. Compared to Th1, they are inferior opponents to Chlamydia. But since NKT cells are being told to produce it, they do, which undermines both Th1 production and the host’s health. But when NKT cells are absent, the Th1 response gets elevated.

“It was surprising to find this,” Yang said. “And it shows that universally activating NKT cells is not always the best way to go about designing drug therapies because you may actually be doing harm in some instances.”
Tracking the influenza pandemic

Books
by University Staff

BY DALE BARBOUR
The Bulletin
You can learn a lot about a city by watching how it faces a crisis.

With Influenza 1918: Disease, Death, and Struggle in Winnipeg, history professor Esyllt Jones tracks the influenza pandemic of 1918-19 as it leaves its mark on the city and its people.

“It’s looking at the flu epidemic and the public health response,” Jones said. The influenza pandemic killed between 20 and 40 million people worldwide. What Jones has put together is a social history of the period in 1918-1919 that speaks to the urban experience across Canada while recognizing the unique aspects of its Winnipeg setting.

Class, gender and ethnicity all played out during the epidemic. On the one hand, it was an opportunity for groups to come together. Middle class women from across Winnipeg went into the health wards to volunteer during the epidemic – an effort that led to them being valorized in the city’s media.

“It was middle class Anglo-Saxon women whose role was celebrated in the press,” Jones said. “Men volunteered but were never given the same role.”

But for all that boundaries were crossed, Jones says there was not a long term shift in social divisions. Those boundaries would be heightened when the Winnipeg General Strike followed on the heels of the epidemic in 1919.

“I see the volunteer experience as a lost opportunity for solidarity across class and ethnic boundaries,” Jones said.

The epidemic started in the south end of Winnipeg but it was to the North End to which the city’s elite looked with concern. They envisioned the ethnic and working class neighbourhoods as being ripe for the picking, and feared that once the flu was established in the North End it spread out of control.

“It serves to show that class mattered. There was a real fear of contagion from the immigrant North End,” Jones said. “The flu moved from south to north in the city and the authorities took the view that once it became rooted in the North End it was game over.”

“By the time it settled into the city there was a great deal of anxiety about it.”

In fact, although it was far from a game over scenario in the North End, Jones said the area did suffer from a higher mortality rate than other parts of the city, a fact she attributes to poverty, poor housing, and the difficulty people there had accessing medical services.

However, she says it wasn’t because “the poor” didn’t try to get help or attend to their own needs.

“There were mutual benefit societies and social networks were critical to how people responded to the crisis,” Jones said.

The last part of the book looks at how family life was impacted by the epidemic. For families that lost a parent, the question rapidly became how to care for the children. Jones said orphanage records for working class families in the period show that orphanages were often relied upon, while families attempted to put their lives back together.

“The records show how single parents used the orphanages as a way of caring for their children and how they tried to reestablish the family, or in some cases didn’t, after the flu had passed,” Jones said.

The number of single mothers left after the epidemic also influenced the development of the welfare state, with government agencies realizing that widows needed support and couldn’t be held responsible for creating their own financial situation.

Influenza 1918 is based on Jones’s PhD dissertation, which was completed at the University of Manitoba. She says she’s always been interested in health and disease, but historically it has often been ignored in working class history. Unfortunately, given that the stresses of dealing with an epidemic such as influenza help show where people’s networks either hold up or break down.

“The challenge, when tracking the progress of something like the flu, was in finding where it left its foot prints. Newspapers and medical reports are obvious sources, but Jones said she also looked through other sources such as trade union publications and orphanage records to track the deeper impact of the epidemic.

“I tried to consider every possible area where the flu would have left its trail in the records,” Jones said.