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## Brennan to head new Biointerfaces Institute

It's 3:00 in the afternoon, and John Brennan is responding to yet another request for an interview, this time from something (or someone) called The Gadget Girls. Since July 2009, when Analytical Chemistry announced his development of a bioactive paper that changes colour when exposed to toxins, Brennan's phone has been ringing off the hook. He's been featured in every major media outlet in North America, including the New York Times, as well as news outlets from Australia to India to the Philippines. Now a self-confessed "gadget geek" wants to write about how the dipstick he invented could become a first line of defense against everything from spoiled produce to deadly bioterrorism agents.

Brennan juggles interviews between meetings with architects – he and his research team were recently awarded more

"Imagine the ability to prepare and characterize 20,000 different materials on a surface the size of a microscope slide."

than \$14 million (\$7.2 million each from the Federal and Ontario governments) to create a brand new facility with state-of-the-art equipment where he can continue to pursue his groundbreaking ideas. The 9,000-square-foot McMaster Biointerfaces Institute will be home to 20-30 scientists who will have access to an array of advanced equipment,

including imaging mass spectrometers, a solid-state nuclear magnetic resonance system and high-tech robots, allowing them to go where no chemical biologist has gone before. "Suites of gear like this do not exist anywhere in Canada," says the Canada Research Chair in Bioanalytical Chemistry, "and outside of Canada in only a handful of highly funded laboratories in the U.S. and Europe."

How did a young doctoral grad, initially rejected for admittance to McMaster's

continued on back

## Science nets \$10M from ORF

**The Faculty of Science** was a big winner in the most recent Ontario Research Fund competition, snapping up 5 out of 18 McMaster awards and netting more than \$10 million for new research infrastructure. "This investment will ensure that our most promising researchers have the facilities and equipment they need to stay in the forefront of discoveries that will impact our environment, our health and our quality of life," said Dean John Capone.

**John Brennan** Associate Professor, Chemistry: \$7,227,157 to develop sophisticated new biomaterials and devices;

**Greg Slater** Assistant Professor, School of Geography and Earth Sciences: \$63,999 to investigate how contaminants impact our environmental systems;

**Laurel Trainor** Professor, Psychology, Neuroscience and Behaviour: \$2,346,412 to develop new and better hearing technologies;

**Mike Waddington** Professor, School of Geography and Earth Sciences: \$153,029 to develop ways to restore and conserve our peatlands;

**Chris Wood** Professor, Biology: \$179,639 to understand how organisms respond to environmental stress.

# Faculty of Science welcomes **Kinesiology**



**A new faculty**, a new curriculum, a new chair, new laboratory and teaching space and two new research centres – McMaster’s Kinesiology Department is enjoying one of its most exciting years ever as it blazes a path to establishing itself as the leading kinesiology program in Canada. After 43 years in Social Sciences, the Department is now part of the Faculty of Science, a move newly appointed chair Martin Gibala says is “absolutely the right decision for McMaster”.

In its early days, the curriculum was heavily influenced by applied courses that prepared students to become physical education teachers. Over the years, the Department has evolved into a first-class centre for research and teaching excellence in a wide variety of fields including biomechanics, exercise rehabilitation, health psychology, motor control and learning and physiology. “It’s now one of the top three kinesiology programs in the country,” says Gibala.

Coupled with a new curriculum and degree designation, the Bachelor of Science Kinesiology, the move will provide students with better laboratory experiences and increased opportunities for cross-disciplinary research and collaboration. “With the addition of Kinesiology, the Faculty of Science at McMaster now has the widest spectrum of disciplines of any science faculty in Canada,” says Dean John Capone.

One of Gibala’s top priorities is continued expansion of the graduate program, consistent with the Faculty’s strategic priorities. “When I graduated with my MSc in 1994, I was one of 13 graduate students in Kinesiology, all at the Masters level. We now have more than 50 full-time graduate students, a majority of them at the PhD level, so growth has

been tremendous.” A former TA, he brings valuable inside knowledge to his new role of Chair – “I respect the history here, which I think is a plus.”

Gibala says the Department is poised to benefit from new provincial legislation that will regulate the profession. “Our program is direct entry, meaning students are exposed to the multidisciplinary nature of kinesiology from the outset through specialized core courses in Level 1. And because students compete only once to get into the program, we can attract and retain the best and brightest students.” The proof is in the pudding: Entrance averages are among the highest of any McMaster program, and attrition rates among the lowest.

A \$16.5 million investment of federal and provincial infrastructure funds, announced last May, will boost the Department’s capacity for research, teaching and community service. The money will be used to establish two new research centres that will be housed in a new 20,000 square foot addition to the Centre for Health Promotion and Rehabilitation. The expansion project will provide new laboratory and teaching space primarily dedicated to spinal cord injury and cancer research, education and rehabilitation. A portion of the money will also go to refurbishing existing lab space in the Ivor Wynne Centre. With private donations, the total cost of the project is \$20 million.

Gibala is clearly excited by the opportunities to enhance cross-disciplinary training and experience at the graduate and undergraduate levels. “Our students will work side-by-side with world renowned experts on cutting-edge research, collaborating with other departments on campus, Hamilton Health Sciences, provincial research partners and industry.” ■

■ Top photo: Kinesiology Chair, Martin Gibala. Bottom: Artist’s rendering of the new kinesiology addition for spinal cord and cancer research education and rehabilitation.

### Weaving arts and sciences into new career opportunities for students.

It's not often university students get to design their own curriculum, but those taking the newly structured Life Sciences program are coming closer than most. Launched this year in response to student demand for a more flexible and wide-ranging Science curriculum, the program offers 3-year (BSc) and 4-year (Honours BSc) stand-alone degrees that build on the Faculty's Level 1 Life Sciences courses. No mere stepping stone to specialization in Year 2, they will form the basis for a program that integrates the arts and the sciences and leads to new and exciting careers ranging from evolutionary ecology to neurobiology to science journalism to the politics of global sustainability.

"The students were the impetus for this program," says Director Kim Dej. "Over the years, more and more of them were choosing not to specialize but to draw from the range of Level 1 Life Sciences courses to create their own interdisciplinary curriculum. We decided to give them what they've been wanting all along, but in a more rigorous program with more support."

Students choose courses from Level 1 Life Sciences, as well as from Biology, Biochemistry and Biomedical Sciences, Psychology, Neuroscience and Behaviour, Kinesiology, and Geography and Earth Sciences. In addition, they can take electives from outside the Faculty – "courses in Business, Religious Studies and English are among the most common," says Dej. Students will also have input into new interdisciplinary courses being designed specifically for the program. "We want students to be a strong force in the development of the program, so we will be looking at which courses are most popular. New offerings could include things like neurobiology, evolutionary psychology and the origins of life," says Dej.

In McMaster's tradition of active learning and collaborative problem solving, a major focus of the program is on developing students' skills in interpreting and communicating data. Research methodology is a required course, and students will get plenty of practice arguing their point of view in small group tutorials. All students have access to academic advisors through the Associate Dean's office, and the Office of Science Career and Cooperative Education is already lining up work placements to capitalize on the unique combination of skills the students are acquiring. "In many cases, they will create their own careers depending on the courses they take," says Dej. "They may become science teachers, work in health communications, or in careers in the biotech or pharmaceutical industries. The sky's the limit." ■

■ Right: Kimberley Dej, Director, Life Sciences Degree Program



### Welcome!

We are pleased to recognize these recent additions to the Faculty of Science:

**Nicholas Bock**, Assistant Professor, MPARS (Nov/08)

**Kevin-Ross Diamond**, Assistant Professor (Special), MPARS (May/09)

**Michael (Mic) Farquharson**, Professor, MPARS (Jan/09)

**Chad Harvey**, Assistant Professor, iSci/Biology (Feb/09)

**Sang-Tae Kim**, Assistant Professor, SGES (Jan/10)

**Orest Ostapiak**, Assistant Professor (Special), MPARS (July/09)

**Maikel Rheinstadter**, Assistant Professor, P&A (Jan/09)

**Sarah Symons**, Assistant Professor, iSci/P&A (Feb/09)

# People we love

## Ron Gillespie Professor Emeritus



Ron Gillespie left a leading research institution in London, England, 50 years ago to come to McMaster on the promise that he would get his own Raman spectrometer. "McMaster was a

very small university at the time, so it was a bit of a stab in the dark, but I've never regretted it," says the professor emeritus of chemistry, now 85.

Those were the heady days of Arthur Bourne and Henry Thode, when decisions were made on a dime and anything seemed possible. "It was a very stimulating period, and my work just took off from there". Best known for his Valence Shell Electron Pair Repulsion (VSEPR) theory, used to describe and predict the shapes of molecules, he confesses it was – like a lot of groundbreaking research – developed by accident. "I was trying to understand molecular geometry, how the atoms are arranged as a molecule, and this seemed to be a very simple explanation."

Gillespie has spent his career devising simple explanations for the fundamentals of chemistry. In the process, he's earned a reputation as an extraordinarily gifted teacher. "I like explaining things to people and I seem to be fairly good at it," he says with characteristic modesty.

Last summer, a group of former students, colleagues and collaborators showed their appreciation by creating the Ronald J. Gillespie Prize in Inorganic Chemistry. With contributions from colleagues and Gillespie's own donation, the endowment for graduate scholarships has grown significantly. Gillespie says he was so honoured that he has decided to leave a further bequest in his will. "I think it's important to support young talent. I'm thankful for the good time I've had and my success here, so why not?"

## Joe Kim Assistant Professor



Joe Kim, Psychology, Neuroscience & Behaviour, is pushing the boundaries of learning, replacing traditional lectures (what he calls "death by PowerPoint") with a blended learning model that combines

online content with interactive elements like pop-up quizzes, live polls, discussion forums, blogs and one-on-one tutorials via instant messaging.

Kim earned his PhD from McMaster in 2000, returning as assistant professor in 2007 with a mandate to update the curriculum for the university's highest enrolment course, Introductory Psychology. The challenge: how to deliver a quality learning experience to 5,000 students annually. Younger than many of his colleagues, Kim understood the tech-savvy lifestyle of today's adolescents, who prefer to stream TV shows on demand instead of watching them on network broadcasts. "They're used to interactive experiences, and to getting their information when it suits them."

Kim's own pedagogical research – he specializes in the psychology of learning – revealed that dry lectures accompanied by text-heavy slides aren't just boring, they can actually interfere with learning. So he pared the number of weekly lectures from three to one and turned it into a colloquium. Students now view a web module prior to the lecture, and come to class prepared to discuss, analyze and argue what they've learned. "Instead of delivering facts, I motivate them, inspire them and help them apply what they're learning to the real world." His efforts have earned him top marks with students (75-80% love the course) and made him a media darling, including features in Maclean's and The Globe and Mail. Kim is now working on ways to further customize the student experience by letting students pick their own audio track and control the rate of narration for web modules. "The material is complex," explains Kim. "We need to make sure students get more than one pass at it."

## Jyssika Russell iSci student



Jyssika Russell never thought she'd be accepted into the innovative new Integrated Science (iSci) program launched this year by the Faculty of Science. "I didn't

think I fit the mold. I'm not an elite student. I never even took high school physics," exclaims the 19-year-old Ottawa native.

But after a year spent in a traditional Science program at another university ("it was too rigid and I was bored"), she says she wanted to come to McMaster whether or not she made the iSci cut. "I liked the way the faculty promotes interaction between different disciplines, and I felt like the profs really cared about me." Now she couldn't imagine herself anywhere else. "I get to investigate my own ideas and express myself in a way I could never do in a regular program. It's beyond my expectations."

With 29 class hours and three lab sessions weekly, Jyssika admits she's challenged. But the opportunity to be involved in interdisciplinary research with teams of instructors from all areas of science makes it exciting. "It really makes you think about how it all connects, and you develop a respect for other disciplines as well as your fellow students."

Classes are small and face time with faculty is high, "which creates a real sense of community and raises the experience to a whole other level."

Looking toward a career as a research scientist in biology or biochemistry, she says she now knows she was the perfect candidate for iSci all along. "It's not about how much you know. It's about how passionate you are about science. And I am definitely passionate."

# Research rising

# celebrating bright, young talent



■ From left: Dean of Science, John Capone, with Marie Elliot, Ben Evans, Bhagwati Gupta and Duncan O'Dell.

**Up-and-coming research stars!** Four of the Faculty's best and brightest were among six McMaster researchers recognized with 2009 Ontario Early Researcher Awards. The up-and-coming scientists will each get \$140,000 from the province, matched by \$50,000 from the University, to build their research teams.

Congratulations to:

**Marie Elliot**, Biology, whose microbial genomics research is helping us understand the relationship between protein aggregations (amyloids) and diseases such as Alzheimer's.

**Ben Evans**, Biology, studies sex chromosomes in frogs to better understand how sex determination impacts human genome evolution and disease.

**Bhagwati Gupta**, Biology, is working with worms (nematodes) to reveal the basis of diseases and accelerate diagnosis and treatment.

**Duncan O'Dell**, Physics, is exploring the application of quantum mechanics to computing and communication with the goal of developing a quantum analogue of the internet. ■

## Congratulations

### Bon appetit!



Graduate Psychology student **Meredith Young** has found that people eat differently depending on who they're with. Her observational study of university students found that women who ate with men chose foods with fewer calories than when dining with women. In mixed gender groups, the number of calories corresponded to the number of men in the group – the more men, the fewer the calories. When women ate in all-female groups, their food was strikingly higher in calories. Young's research was published in the online version of the international journal *Appetite*.

## Vanier scholars

Four students in the Faculty of Science were among eight McMaster students to receive Vanier Canada Graduate Scholarships in 2009, the program's inaugural year. Created by the federal government to attract and support world-class doctoral students, the scholarships are valued at \$50,000 each and administered through the tri-council funding agencies. "This success reflects both the strength of our graduate programs and the outstanding calibre of graduate students in the faculty," noted John Capone, Dean of Science.

**And the winners are:**

**From CIHR:**



**Nghi Phan**, Medical Physics & Applied Radiation Sciences, is investigating low dose radiation risk

associated with diagnostic X-rays and gamma rays.

**From NSERC:**



**Vladimir Miskovic**, is in the Integrative Neuroscience & Discovery Graduate Program, offered jointly by

the Faculties of Science and Health Sciences, where his research involves characterizing the neurocognitive endophenotype of socially anxious temperament.



**Nikol Piskuric**, Biology, is studying the functional and anatomical characterization of rat aortic bodies.

**From SSHRC:**



**Kate Mulligan**, Geography & Earth Sciences, is developing a global assessment tool for community vulnerabilities

to water-health challenges and environmental change.

**So much has happened** in the past year. The McMaster Nuclear Reactor turned 50, and we celebrated the International Year of Astronomy with the unveiling of a newly renovated W.J. McCallion Planetarium. But that's not the only place you'll find stars. Our Faculty members shone, picking up awards and achievements of every kind. Here are just a few.

**Laura Parker**, Assistant Professor, P&A, received a Polanyi Prize. An observational astronomer, Parker's research on "dark matter" in the universe is helping particle physicists better understand areas of the universe we can't directly see.



**Jeff Galef**, Professor, P, N & B, and **Cliff Burgess**, Professor, P&A, have been welcomed into The Royal Society of Canada. Galef was recognized in 2009 for his work on social learning in animals. Burgess, one of Canada's most prolific and highly cited particle theorists, was elected in 2008.

**Susan Dudley**, Associate Professor, Biology, earned a 2010 Woman of Distinction Earth Award from WINGS WorldQuest, which showcases the work of female scientists. An evolutionary ecologist, Dudley received the award for her discoveries on plant kin recognition, recently published in the American Journal of Botany.



**Carolyn Eyles**, Professor, SGES, was one of 10 university professors across the country awarded a 2009 3M Teaching Fellowship, Canada's highest teaching award.

**John Berlinsky**, Professor, P&A, was named academic program director of Canada's Perimeter Institute for Theoretical Physics, an independent research institute located in Waterloo.

**Pippa Lock**, Assistant Professor, Chemistry, and **Walter Peace**, Associate Professor, SGES, shared McMaster's 2009 President's Award for Instruction. **Alan Chen**, Associate Professor, P&A, was awarded the McMaster Students Union (MSU) 2008-2009 Teaching Award in the Arts & Science category.

**Willie Leigh**, Professor, C&CB, received the 2010 Inter-American Photochemical Society Award in Photochemistry for his work in characterizing the photochemistry of the group 14 elements silicon, germanium and tin, and for his contributions in advancing photochemistry and the photosciences.

**Juliet Daniel**, Associate Professor, Biology, has earned the Gold Crown of Merit, one of Barbados' highest honours, for her work in cancer research. A native Barbadian, Daniel's work focuses on understanding how cancer cells escape from tumours and travel to other parts of the body.



**Chris Wood**, Professor, Biology, and colleague Adalberto Bianchini of Brazil have been awarded \$1M by the International Research Chairs Initiative (IRCI) to battle pollution in Brazil's coastal areas. What they learn will be used to determine future approaches to cleaning up Hamilton Harbour.



**Elizabeth Weretilnyk**, Professor, Biology, has received a \$3.5M Ontario Research Fund (ORF) award to improve the sustainability of crops. Matched by private sector contributors, the total project cost is more than \$10M.



**Bill Harris**, Professor, P&A, has earned the 2010 Carlyle S. Beals Award from the Canadian Astronomical Society for his outstanding contributions to astrophysics. Harris was cited for his contributions to our understanding of globular clusters, globular cluster systems, galaxy formation and evolution, and observational cosmology.

Two Faculty members have been awarded prestigious fellowships allowing them to work full-time on their research.

**Walter Craig**, Professor, M&S, received a 2009 Killam Research Fellowship, to continue his study of the mathematical physics of waves. **Paul Ayers**, Associate Professor, Chemistry, was awarded a 2008 Alfred P. Sloan Foundation Research Fellowship to support his work in theoretical chemical biology. ■

## In memoriam



### **Margo Wilson**, Professor, Psychology, Neuroscience and Behaviour (1942-2009)

A specialist in the field of evolutionary psychology, Margo Wilson made important contributions to our understanding of the evolution of social behaviour. She was married to fellow McMaster Psychology professor Martin Daly, with whom she collaborated extensively. They were the first to study the evolutionary roots of homicide, and to demonstrate that step-parents are more likely to murder their children than biological parents. She continued to conduct epidemiological analyses of patterns of risk for violence in different types of relationships, including examining the motivations behind intimate partner violence, an area in which her research had a major impact. In 1998, she was named a Fellow of the Royal Society of Canada. Wilson died of cancer at the age of 66.

## the last word

## The spirit of possibility



John Capone, Dean of Science

"Change is the law of life. And those who look only to the past or present are certain to miss the future."

- John F. Kennedy

**The beginning of a new year** offers new opportunities to excite and to challenge. Nowhere is this more evident than in the Faculty of Science. Everywhere I go, I see faculty members and students who are inspired, passionate, innovative and determined. There's a shared purpose and sense of excitement sweeping the halls and classrooms and research labs, creating a culture of success, a spirit of possibility.

And with good reason. We've experienced explosive growth in undergraduate enrolment and the strongest growth in graduate education in more than a decade.

Our research funding is on a steady upswing, and our success rate in major grant competitions has improved significantly. We are thinking big and acting globally.

This issue of InSCIghts celebrates this bold, new spirit and the people who embody it. It highlights the many ways in which we are linking knowledge and discovery to learning outcomes, through major changes to core programs, the addition of new programs, and leading-edge approaches to teaching and research. And it illustrates the commitment to excellence that has helped propel our Faculty to a position in the upper echelons of Canadian institutions.

Please join me as we salute our talented researchers, educators and students and cheer them on to even bigger and better things to come. ■

## Thank-you to our donors!

Two recent gifts will boost the Faculty of Science's longstanding commitment to public education and outreach.

### The Imperial Oil Foundation will donate \$250,000

to support the Geomatics High School Outreach Program and create a 3D Imaging Laboratory, one of only two in Ontario that incorporates GIS, remote sensing and geophysical software packages. Led by Bill Morris, SGES, the program will be enhanced by a new series of comprehensive, one-day workshops – the Imperial Oil Learning Units on Remote Sensing – that will give students from high schools throughout Hamilton and the surrounding area the chance to learn about remote sensing, a key element in GIS analysis.

**The \$1.5 million RBC Water and Health Initiative** will create new projects with a focus on improving our health by improving our water. In the first round, Biology professor Pat Chow-Fraser will lead the Urban-Rural Bio-monitoring and Assessment Network (URBAN), a citizen-run program to monitor and track biodiversity and ecosystem health in the Hamilton region; SGES associate professor Altaf Arain and professor Mike Waddington will develop public lectures, a website and high school outreach programs through the McMaster Centre for Climate Change; and SGES professor Lesley Warren will establish outreach programs related to her green mining technologies research.

## Donors are critical to our success

Your contribution can help us to engage in promising new research, attract and retain internationally acclaimed faculty, transfer evidence-based knowledge to communities, and provide support to talented undergraduate students and emerging scientists.

To learn more about ways of giving, contact the Dean's office, 905-525-9140, ext. 22616, or by email at [scinews@mcmaster.ca](mailto:scinews@mcmaster.ca).

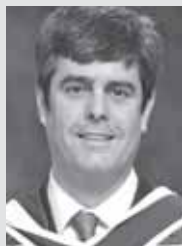
WIN  
an iPod!

Drop us a line at [scinews@mcmaster.ca](mailto:scinews@mcmaster.ca) and tell us what you think of the new and improved InSCIghts.

You'll get one chance in our draw for a brand new iPod Shuffle.

Entry deadline is March 17, 2010.

## One to watch



**Thomas Mason** is definitely one to watch. In 2008, he received the McMaster Distinguished Alumni Award, was named one of "100 Canadians to Watch" by Maclean's magazine, and was listed as one of Canada's Top 40 Under 40. Graduating with his PhD in condensed matter physics, Thom went on to a postdoctoral fellowship at AT&T Bell Labs in New Jersey. He was a senior scientist at Riso National Laboratory in Denmark and an associate professor at the University of Toronto before joining the Oak Ridge National Laboratory in Tennessee where he is now laboratory director for Neutron Sciences.

# Brennan to head new Biointerfaces Institute

continued from cover



■ John Brennan in his lab.

undergraduate program, become – in just 11 years at Mac – a world leader in the area of protein immobilization within porous sol/gel-derived silica materials? “It was a combination of good timing, hard work and a bit of luck,” says Brennan.

He spent his first five years as a professor figuring out what proteins do when they’re trapped in sol/gel-derived materials – “fundamental work, really”. The next five years, he worked on developing new bioanalytical tools including protein microarrays, bioaffinity chromatography columns and biosensors, all of which are

based on biomolecules that are entrapped in inorganic silicate matrixes. Funded by MDS Sciex (now Danaher Corporation), his chief goal was to use these devices to examine protein-protein and protein-small molecule interactions in a high-throughput manner to accelerate the discovery of drug leads. His efforts were rewarded with the McBryde Medal for contributions to Analytical Chemistry from the Canadian Society of Chemistry in 2006 and the Ken Standing Award for contributions to the Life Sciences in 2007.

In 2004, Brennan was approached by Bob Pelton, professor of chemical engineering and Director of McMaster’s Centre for Pulp and Paper Research. “Bob wanted to make a biologically active paper, and I knew how to immobilize proteins so I was a good match for the project. Bioactive paper was an interesting platform to expand on what I was already doing.”

He picked a target – pesticides – then went to work developing a simple paper biosensor using a Fujifilm Dimatix Materials Printer. The process involved creating two inks – one made of silica nanoparticles, another containing an enzyme (acetylcholinesterase, AChE) that reacts to the presence of organophosphate pesticides, which inhibit the enzyme. The second ink bonds with the first to render the paper

bioactive: if pesticides are present, the paper will change colour relative to that obtained for clean samples. Brennan’s discovery, when fully commercialized, will be a boon to undeveloped countries, where such toxic pesticides are still widely used. But the potential is huge for the development of other bioactive papers that could be used to detect deadly bacteria such as E. Coli H7:O157, listeria or salmonella, and protect against communicable diseases like SARS.

And yet bioactive paper is just the tip of the dipstick, says Brennan. The Biointerfaces Institute will have the ultimate in high-throughput materials synthesis and screening technology – “Imagine the ability to prepare and characterize 20,000 different materials on a surface the size of a microscope slide” – accelerating the discovery process to a level never before imagined. “We will know almost immediately how an artificial material might react with biological entities, allowing us to develop better biosensors and better implantable materials. The long-term goal of researchers in the Biointerfaces Institute is to work with clinicians who will have the ability to implant these materials, making possible more biocompatible breast implants, more comfortable contact lenses, or ocular implants that can release drugs gradually. The list goes on and on.” ■

## science scene

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#### CIHR Canadian National Brain Bee 05.28-29.10

High school students Canada-wide will test their neuroscience knowledge in this annual event hosted by the Department of Psychology, Neuroscience and Behaviour.

May 28-29, 2010  
BA, Psychology Building  
[www.brainbee.ca](http://www.brainbee.ca)

#### TRANSLOG 2010 06.15-16.10

The McMaster Institute for Transportation and Logistics will host the 2nd international TRANSLOG conference examining “Transportation as an Economic Enabler”.

June 16-17, 2010  
McMaster Innovation Park  
175 Longwood Rd. S., Hamilton  
<http://mitl.mcmaster.ca/translog>

#### Innovation Showcase 2010 06.17.10

The 3rd annual McMaster Innovation Showcase will focus on McMaster’s research centres – how they collaborate with businesses and foster innovation in local industries.

Thursday, June 17, 2010  
McMaster Innovation Park  
175 Longwood Rd. S., Hamilton  
<http://milo.mcmaster.ca/showcase>