

**PRESIDENT'S REPORT TO
MCMASTER UNIVERSITY'S BOARD OF GOVERNORS
OCTOBER 20, 2011**

McMaster ranked among world's best

McMaster continues to be rated among the world's top universities, according to a number of rankings released recently.

McMaster moved up significantly in the Times Higher Education World University Rankings, jumping to 65 from 93. The Times rankings take into account performance indicators in areas such as teaching, research, citations, industry income and international outlook. McMaster is one of only two Ontario universities to be ranked in the top 100.

Earlier this fall, the University moved up three spots to 159 from 162 in the QS World University Rankings. The report ranks 700 global institutions and is based on student- focused principles.

The Academic Ranking of World Universities, published by the Center for World-Class Universities and the Institute of Higher Education of Shanghai Jiao Tong University, ranked McMaster 89th in the world. This is the ninth consecutive year that McMaster has earned a spot in ARWU's top 100.

New projects

The past few months saw a number of significant government announcements at McMaster. These included:

\$45.5-M provincial investment in liberal arts at McMaster

A \$45.5-million investment by the Ontario government will allow McMaster to build a major new liberal arts building that will be used by more than half the entire student body and improve access to education for under-represented groups such as Aboriginal people, Crown wards and first-generation students.

The Wilson Building for Studies in Humanities and Social Sciences will feature a wide range of flexible spaces for teaching, learning, research and performance, all equipped with cutting-edge technology. At least 13,000 students will use the building, including those from faculties whose education includes courses in the liberal arts. The project is to commence in 2012, with construction anticipated to begin in 2013.

Prime Minister visits campus

Prime Minister Stephen Harper visited McMaster in August to announce the winners of the prestigious Vanier Canada Graduate Scholarships for 2011, a group that includes six McMaster scholars.

The federal government established the awards in 2009 to attract and retain world- class doctoral students from across Canada and abroad. Each student will receive \$50,000 a year for up to three years.

McMaster's 2011 Vanier Canada Graduate Scholarship winners are:

Dr. Carolina Alba, Clinical Epidemiology & Biostatistics, Faculty of Health Sciences
Jonathan Lai, Psychiatry & Behavioural Neuroscience, Faculty of Health Sciences
Paul Johnson, Department of Chemistry and Chemical Biology, Faculty of Science
Frances Lasowski, Department of Chemical & Biomedical Engineering, Faculty of Engineering
Vinh Nguyen, Department of English & Cultural Studies, Faculty of Humanities
Sarah Dickin, School of Geography & Earth Sciences, Faculty of Science

Federal investment transforms warehouse into auto research centre

Minister Gary Goodyear visited to announce the federal government's investment of up to \$11.5 million in the McMaster Automotive Resource Centre (MARC). The funding will allow the University to accelerate automotive research, improving educational and employment opportunities across Hamilton and beyond.

The investment will be used to transform the former appliance warehouse at McMaster Innovation Park into a state-of- the art research facility, where academic, government and industrial partners will collaborate to develop new technology. The centre itself is a \$26-million project and is expected to employ 120 to 150 people when complete.

A major focus of the new auto research centre will be the work of **Ali Emadi**, an internationally renowned leader in advanced powertrain technology, who was recruited from the US and holds the \$10M Canada Excellence Research Chair in Hybrid Powertrain.

McMaster opens new \$22-million nuclear research facility

Federal and provincial politicians were on campus this summer to officially unveil the newly expanded Nuclear Research Building, a new cyclotron facility and improvements to the McMaster Nuclear Reactor (MNR) Building: facilities which are now available for the world's leading nuclear scientists and engineers.

Nuclear sciences and engineering received \$22-million from the federal and provincial governments in 2009 as part of the Knowledge Infrastructure Program. The money was used to upgrade physical infrastructure, expand isotope research and production capacity, and enhance research and education facilities for the nuclear industry and health care sectors.

A new facility houses a 10-ton, \$2-million cyclotron which will produce PET scan medical isotopes. The facility will primarily be used for the development of new drugs for the early diagnosis of diseases such as cancer and Alzheimer's. The facility will be able to produce imaging isotopes every day in the facility, which can be immediately delivered to a local hospital and used for the patients who need them most.

Researchers reconstruct genome of the Black Death

McMaster made headlines around the world last week thanks to the discovery of the genome of the Black Death. An international team - led by geneticists **Hendrik Poinar** and **Kirsten Bos** in collaboration with **Brian Golding** and **David Earn** - sequenced the entire genome of the Black Death, one of the most devastating epidemics in human history. This marks the first time scientists have been able to draft a reconstructed genome of any ancient pathogen, which will allow researchers to track changes in the pathogen's evolution and virulence over time and could lead to a better understanding of modern infectious diseases.

Media coverage included The New York Times, CNN, The Washington Post, PBS, The Globe and Mail and other major newspapers and broadcasters.

Royal Society recognizes bioactive paper researcher

McMaster's **Robert Pelton** has been elected a Fellow of the Royal Society of Canada. Election to the society is considered the highest honour a scholar in the arts, humanities or sciences can achieve.

Pelton, a professor of chemical engineering, is best known for his work in developing pathogen-detecting paper. The paper, developed by the McMaster-led Sentinel Bioactive Paper Strategic Network, uses chemically or biologically impregnated paper to provide fast, easy and inexpensive detection of pathogens and toxins in food, water and air.

Pelton will be officially inducted into the society on November 26 in Ottawa.

McMaster employees honoured for years of service

Longtime employees of the University were honoured this month at the annual Years of Service luncheon.

Nearly 150 employees, whose years of service to McMaster range from 15 to 45 years, were thanked for their dedication at the luncheon.

James Thomas, who works at the Nuclear Reactor, and David Watters, in Facility Services, both celebrated 45 years of service to McMaster. Forty-year honourees included Robert Eismont, Nuclear Reactor, Fred Pearson, Brockhouse Institute, Linda Westfall, Medicine, Joan Whitehouse, Psychiatry & Behavioural Neurosciences, and Nigel Wylde, University Technology Services.

MacServe sends students, faculty, staff, alumni into community

More than 300 students, faculty, staff and alumni hit the streets of Hamilton last month to volunteer with non-profit organizations in need of a helping hand.

Dubbed the MacServe Day of Service, the event saw volunteers work with community agencies in a number of areas, including the environment, health and social issues.

HSR and school buses took participants from campus to sites throughout the city. A number of agencies in Mississauga were also involved, so that those who normally commute to Hamilton could take part closer to home.

New Alumni Association president

Bill McLean has been elected president of the McMaster Alumni Association. The business entrepreneur has previously served as the association's second and first vice-president. He graduated from McMaster in 1990 with a degree in commerce.

Arts & Science celebrates 30 years with reunion

McMaster University's Arts & Science Program hosted a class reunion last month to celebrate its 30th anniversary.

Since welcoming its first cohort of students in 1981, the Arts & Science Program has become renowned for success in providing a broad-based, science and liberal arts education. With an annual enrollment of approximately 60 students, the program centres on collaborative learning while emphasizing critical reasoning, writing and issues of public concern.

The 30th anniversary celebrations allowed current students and graduates to meet or re-connect through networking sessions and an informal mixer. Other events included a student/alumni/professor debate and a forum on interdisciplinary education moderated by Jean Wilson, the program's director.

Homecoming 2011

The University celebrated its annual Homecoming festivities Sept. 30 to Oct. 2. Events included reunions, campus tours, a concert with social sciences alumni Arkells and a Marauders football game.

Athletics & Recreation also hosted its first Celebration of Sport dinner during Homecoming, featuring the induction of Amy Apps, Ben Chapdelaine, Sarah Laudenbach, Roger Martindill, Greg Marshall and Peter George into McMaster's Athletic Hall of Fame.

Don Pether Incubation Centre opened

The new Don Pether Incubation Centre, which opened earlier this month, will help engineering students through the challenge of converting their entrepreneurial ideas into business reality. Selected students and recent graduates of the Engineering Entrepreneurship and Innovation master's degree program will receive startup support for their technology businesses, using the centre to continue the process of commercializing new products and services.

The centre will provide office facilities and access to the guidance, experience and knowledge of the University's Xerox Centre for Engineering Entrepreneurship and Innovation and the McMaster Industry Liaison Office as well as proximity to other commercialization specialists at the McMaster Innovation Park. The centre is located on the third floor of the Atrium building at the park.

Cooper Construction gift builds community hub at Ron Joyce Centre

A \$250,000 gift from Cooper Construction - a family-run company with deep community roots and a longstanding relationship with McMaster University - will create a valuable information hub in the heart of the Ron Joyce Centre in Burlington. The Cooper Construction Welcome Centre, located on the main floor, is designed to be the first stop for students and visitors alike. For 70 years, Cooper Construction has partnered with McMaster, working on more than two dozen construction projects on campus. Most recently, the company completed the four-storey Ron Joyce Centre - home to the University's MBA and executive education programs - which opened in September of 2010.

Impact – McMaster Researchers' Innovations and Discoveries

McMaster receives more than \$5.6-million for research in water, health and sustainability

Researchers at McMaster have received more than \$5.6-million from the Province for three major projects: to develop systems to detect bacteria levels at public beaches, improve how electronic health-care data is shared and address the challenges of sustainability in manufacturing.

Scientists and engineers led by biology professor **Herb Schellhorn** have developed a research strategy to create an inexpensive remote device capable of sensing microbial and chemical contamination in water and transmitting the information through wireless networks to alert public officials of problems.

Radiologist **David Koff** will lead a project team to develop technologies for accelerating how large data sets - diagnostic and medical images such as x-rays, ultrasounds and MRIs - are shared among health-care providers. The research will ensure that the images associated with a patient's medical history are shared seamlessly and securely.

Chemical engineer **Christopher Swartz**, director of the McMaster Advanced Control Consortium (MACC) will lead an initiative to provide new mathematical models and technology to Canadian companies, focusing on sustainable process operations which are efficient, reliable, safe, use low amounts of raw materials and energy, and produce benign waste.

Milk better than water to rehydrate kids

Milk is a more effective way of countering dehydration in active children than sports drinks or water, say researchers at McMaster.

Brian Timmons, research director of the Child Health and Exercise Medicine Program, found that milk is better than either a sports drink or water because it is a source of high quality protein, carbohydrates, calcium and electrolytes.

Milk replaces sodium lost in sweat and helps the body retain fluid better. It also provides protein, needed by children for muscle development and growth, not found in the other drinks.

Eating greens can change effect of genes

An international team of scientists, led by joint principal investigator **Sonia Anand**, a professor of medicine and epidemiology at McMaster, has found that the gene 9p21, the strongest marker for heart disease, can actually be modified through the consumption of generous amounts of fruit and raw vegetables.

The research, which represents one of the largest gene-diet interaction studies ever conducted on cardiovascular disease, involved the analysis of more than 27,000 individuals from five ethnicities - European, South Asian, Chinese, Latin American and Arab - and the affect that their diets had on the effect of the 9p21 gene. The results suggest that individuals with the high-risk genotype who consumed a prudent diet, composed mainly of raw vegetables, fruits and berries, had a similar risk of heart attack to those with the low-risk genotype.

McMaster researchers find missing genes may separate couch potato from active cousin

McMaster researchers have discovered that mice lacking key genes have difficulty engaging in physical activity.

The researchers, led by **Gregory Steinberg**, made their unexpected finding while working with healthy, specially- bred mice, some of which had two genes in muscle essential for exercise removed. The genes control the protein AMP-activated protein kinase (AMPK), an enzyme that is switched on when you exercise. While the normal mice could run for miles, those without the genes in their muscle could only run down the hall and back. The researchers found the mice without the muscle AMPK genes had lower levels of mitochondria and an impaired ability for their muscles to take up glucose while they exercise.

The findings are important for individual who find it difficult to exercise, such as the obese, asthmatics and people in wheelchairs, since their inactivity may lead to other complications.

Researchers find exercise boosts health by triggering stem cells to become bone, not fat

McMaster researchers have found one more reason to exercise: working out triggers influential stem cells to become bone instead of fat, improving overall health by boosting the body's capacity to make blood.

Using treadmill-conditioned mice, a team led by the Department of Kinesiology's **Gianni Parise**, has shown that aerobic exercise triggers those cells to become bone more often than fat.

The research appears in a new paper published by the Journal of the Federation of American Societies for Experimental Biology.

\$40-million investment launches international hypertension study

A major international study of 11,000 elderly persons with high blood pressure will be led and managed by the Population Health Research Institute (PHRI) of McMaster and Hamilton Health Sciences, thanks to a \$40-million investment in Ontario by Novartis Pharmaceuticals Canada Inc.

The study, APOLLO (Aliskiren Prevention of Later Life Outcomes) is one of the largest ever to be conducted out of Canada. It is being led by **Salim Yusuf**, executive director of the PHRI and a professor of medicine at McMaster and will follow patients in 20 countries over five years to determine the long-term benefits of aliskiren, the first of a unique new class of blood-pressure-lowering agents called renin inhibitors.

More than \$1.8M to equip cutting-edge labs

Five labs from across campus will be taking delivery of new equipment, thanks to the CFI's Leaders Opportunity Fund - a program which invests in state-of-the-art facilities and equipment to attract and retain today's best research talent. The equipment ranges from large memory computers to instruments on the nanoscale, to a high precision mass spectrometer, and from a facility to measure children's health to a high capacity Biosafety Level 2 facility to culture and characterize microbial communities.

The investment will help create the partnerships that will continue building McMaster's research capacity in areas such as healthcare, the automotive industry, infectious diseases and the environment.

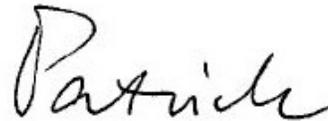
New blog sorts health fact from fiction

McMaster scientists are helping keep tabs on the factuality of public dialogue about health research through a new online publication hosted by Maclean's magazine.

"Science-ish", written by Julia Belluz, associate editor at The Medical Post, fact-checks claims made in the media and other areas of public discourse by weighing them against research-based evidence. The site aims to correct misleading headlines and inflammatory statements by journalists, politicians and other opinion leaders.

Since launching in June, the weekly blog has examined a range of topics including breast cancer screening, the safety of asbestos and genetically modified foods.

Cheers!

A handwritten signature in black ink that reads "Patrick". The letters are cursive and fluid, with a large initial 'P'.

Patrick Deane