

Research News

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Health researchers receive \$8.5 million

BY FRANK NOLAN
Research Promotion

Forty-two health research projects at the University of Manitoba have received a total of \$8.5 million in new funding from the Canadian Institutes of Health Research (CIHR). The new funding was highlighted on October 20 in Ottawa by the Honourable Vic Toews, Minister of Justice and Attorney General of Canada on behalf of the Honourable Tony Clement, Minister of Health.

The funded projects will be conducted at the University of Manitoba and partner research institutions, including CancerCare Manitoba, St. Boniface General Hospital, and the Health Sciences Centre, and they will be carried out over periods of one to five years.

"These 42 projects encompass a broad range of specialized health research, from investigations of human disease at the molecular level, to comprehensive studies of population

health," said Joanne Keselman, vice-president (research) at the University of Manitoba. "The CIHR funding highlighted today is a welcome recognition of both the very high calibre of our health researchers and the importance of their work, and it's great news for all of the people whose lives will be improved by these cutting-edge projects."

Listed alphabetically, the principal investigators whose projects received new funding include: *

Peter Cattini, physiology • **Brian Cox**, psychiatry, with co-investigators Jitender Sareen and Murray Enns, psychiatry • **Brenda Elias**, community health sciences • **Keith Fowke**, medical microbiology, with co-investigator Jody Berry, immunology/medical microbiology • **Spencer Gibson**, biochemistry and medical genetics • **Kathleen Gough**, chemistry, with co-investigator Marc Del Bigio, pathology • **Maureen Heaman**, Nursing, with co-investigators Michael Moffat and

Lawrence Elliot, community health sciences; and Michael Helewa, obstetrics and gynecology • **Larry Jordan**, physiology • **Lorrie Kirshenbaum**, physiology • **Binhua Liang**, medical microbiology • **Lisa Lix**, community health sciences, with co-investigators Abba Gumel, mathematics; William Leslie, internal medicine; and Chris Bowman and Richard Baumgartner, National Research Council Institute for Biodiagnostics • **Marek Los**, biochemistry and medical genetics • **Grant McClarty**, medical microbiology • **Leigh Murphy**, biochemistry and medical genetics, with co-investigator Peter Watson, pathology • **Gregoire Nyomba**, internal medicine, with co-investigator Suresh Mishra, physiology • **Karmin O**, animal science • **John O'Neil**, community health sciences, with co-investigators James Blanchard, community health sciences/medical microbiology; Shiva Halli, Javier Mignone and B.M. Ramesh, community health sciences; and Stephen Moses,

medical microbiology • **Pamela Orr**, community health sciences, with co-investigators Linda Larcombe and Meenu Sharma, medical microbiology; and Peter Nickerson, internal medicine • **Jitender Sareen**, psychiatry • **Garry Shen**, internal medicine, with co-investigators Sharon Bruce and Robert Murray, community health sciences; Sora Ludwig, internal medicine; Phillip Gardiner, Physical Education and Recreation Studies; Gustaaf Sevenhuysen, human nutritional sciences; Heather Dean, pediatrics and child health; and Margaret Morris, obstetrics and gynecology • **Peter Watson**, pathology, with co-investigators Leigh Murphy, James Davie, Spencer Gibson and Etienne Leygue, biochemistry and medical genetics; Sabine Mai, physiology; and Yvonne Myal, pathology • **Xiao-Jian Yao**, medical microbiology.

(*List does not include CIHR trainee awards.)

Upcoming

Get to know Research at your University Speaker Series

November 15, 7:00 pm
Smartpark Lobby Boardroom

with

Dr. Cyrus Shafai

Assistant Professor

Electrical and Computer Engineering

Nanotechnology: Impacting Our Day-to-Day Lives

What exactly is nanotechnology, and how does it affect you? These questions will be the focus of a public lecture by Cyrus Shafai, electrical and computer engineering, on November 15, as part of the *Get to Know Research at your University* speaker series.

Shafai is director of the Nano-Systems Fabrication Laboratory at the University of Manitoba, which is capable of making micro-devices with features as small as a few nanometres (one nanometre is one thousand-millionth of a metre). His presentation will explain how nano-systems are being used in applications ranging from tiny implantable medical devices to household appliances that use microscopic mechanical parts. Shafai will also outline the enormous future potential of this technology in molecular electronics, vaccine development, textile sciences, communications, and much more.

Admission is free, and everyone is invited to attend. For more information, please call Kimberley at 474-9020.

Avoiding the dentist's drill

BY RENÉE BARCLAY
Public Affairs
and Communications Officer
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External Relations

A new research project could soon make a trip to the dentist a whole lot easier. The study is examining the use of new technology for the early detection, prevention and reversal of tooth decay, which could potentially reduce the need for drilling and filling teeth.

Researchers in the Faculty of Dentistry are part of a team of scientists that has been awarded US \$1 million to develop cost-effective tools to help dentists diagnose and manage patients' oral health.

The team is a consortium led by the National Research Council of Canada Institute for Biodiagnostics (NRC-IBD), with Dr. Lin-P'ing Choo-Smith as principal investigator. It includes Dentistry faculty members Cecilia Dong, Billy Wiltshire, and Colin Dawes, as well as clinicians at Dalhousie University and engineers from Quebec's National Optics Institute.

The U.S. National Institutes of Health - National Institute of Dental and Craniofacial Research (NIH-NIDCR) awarded the research team a four-year grant totaling US \$1,078,480 for a study into "validating optical coherence tomography (OCT) and Raman spectroscopy to assess tooth de/remineralization".

The research team contends that combining various techniques, such as Raman spectroscopy and OCT, will help overcome the limitations dentists encounter when using only a single technique, like x-rays, to detect cavities.

"The results of this research could have a major impact on dental practice



Photo by Renée Barclay

Dr. Cecilia Dong, restorative dentistry, (left) and Dr. Lin-P'ing Choo-Smith, National Research Council Institute for Biodiagnostics, are part of a team studying advanced dental diagnosis techniques.

and we are proud to be part of the innovative team. It is very satisfying to see Canadians taking the lead in this important field," said Ian Smith, director general of NRC in Manitoba.

The project proposes to develop intra-oral probes based on the combined technology and to validate the methods for clinical use. The NRC technology is in line with a new dental care focus on prevention and tooth preservation rather than restoration.

Cecelia Dong said the Faculty of Dentistry began working with the NRC-IBD almost five years ago, and the collaboration has grown into a strong research partnership.

"Our colleagues at the NRC-IBD were very innovative in recognizing early the opportunity to apply their expertise to a widespread age-old oral health problem that is now a major leading area of dental research," she said.

The NRC Institute for Biodiagnostics, located in Winnipeg, develops and commercializes innovative medical devices for the non-invasive diagnosis of diseases, with research focused in optical and magnetic resonance imaging and spectroscopy, device prototyping, bioinformatics, and medical software.

Bringing Research To Life

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