

DEAN'S REPORT

Leading Through Partnerships



UNIVERSITY OF TORONTO
FACULTY OF MEDICINE



Partnering for Success

It is with great pride that I present the Faculty of Medicine Dean's Report – a celebration of the remarkable accomplishments of our faculty and students, supported by our outstanding staff.

The partnerships with our affiliated hospitals and research institutes set us apart from any other Faculty of Medicine in Canada and enable us to realize our vision of international leadership in health research and education.

For over 150 years, our Faculty has educated tens of thousands of health professionals, students and trainees. Today we are global leaders in health education research, focused at the Wilson Centre in partnership with the University Health Network. And this year, together with the other Health Science Faculties at the University of Toronto, we opened the Office of Inter-Professional Education to establish a new curriculum focused on team care among all the health professions at the University of Toronto.

Our scientists have helped transform health care through an array of significant discoveries over the years – from insulin to T-cell receptors and Alzheimer's disease genes. Today, the Terrence Donnelly Centre for Cellular and Biomolecular Research (TDCCBR) is home to scientists from medicine, biomedical engineering, pharmacy and chemistry, and provides an innovative environment for three inter-disciplinary research platforms including bioengineering and functional imaging, integrative biology, and models of disease. We have also established a new program called the Comprehensive Research Experience for Medical Students that provides exciting research experiences for students who may aspire to a future academic career.

Our mission is to prepare future leaders, contribute to our communities, and improve the health of individuals and populations through the discovery, application and communication of knowledge. Partnerships are among our most important, enabling assets.

Thank you for your interest and support.
Sincerely,



Catharine Whiteside, MD, PhD, FRCP(C)
Dean, Faculty of Medicine
Vice-Provost, Relations with Health Care Institutions



(top) Catharine Whiteside, MD, PhD, FRCP(C) Dean, Faculty of Medicine **(left)** The Terrence Donnelly Centre for Cellular and Biomolecular Research (TDCCBR), a centre for innovative partnerships **(right)** The Giants of Biomedical Science Hall, TDCCBR, celebrating our proud legacy of discovery

Basic Sciences Sector

The Faculty is a research powerhouse in the basic biomedical sciences and its success is rooted in our strong partnerships with our affiliated hospitals.

Our award-winning faculty, located on campus and in our 10 fully affiliated hospitals, are expanding the boundaries of scientific knowledge. Our nine basic biomedical science departments include the Banting and Best Department of Medical Research, Biochemistry, Immunology, Institute of Biomaterials and Biomedical Engineering, Nutritional Sciences, Medical Biophysics, Medical Genetics & Microbiology, Pharmacology, and Physiology. From Christopher Yip's (Biochemistry) elucidation of the three-dimensional structure of cellular membrane proteins linked to disease, to Li Zhang's (Immunology, University Health Network) identification of new therapeutic roles of regulatory T-cells in organ transplant rejection, our scientists are literally changing the face of medicine.

This past year marked the first anniversary of the Terrence Donnelly Centre for Cellular and Biomolecular Research (TDCCBR). In this architecturally award-winning building, inter-disciplinary research platforms support some of our top young scientists. To honour the Faculty's legacy of discovery, the Giants of Biomedical Science Hall was opened in the main lobby of the TDCCBR in June 2006.

The Structural Genomics Consortium, led by Professor Aled Edwards, Banbury Chair of Medical Research and Cheryl Arrowsmith, Canada Research Chair (both of Banting and Best Department of Medical Research), also reached a milestone this year – 400 proteins structures deposited into its Protein Data Bank.



Anthony Pawson
Professor, Department of Medical Genetics & Microbiology; Mount Sinai Hospital

A member of the Samuel Lunenfeld Research Institute, Pawson is an international leader in the field of cell signaling. His research breakthroughs have led to a growing understanding of the link between cell miscommunication and disease. In 2006, he was named to Britain's Order of the Companions of Honour.



Brenda Andrews
Professor and Chair, Banting and Best Department of Medical Research

Andrews is Director of the TDCCBR and one of the world's foremost authorities on functional genomics. A member of the Royal Society of Canada, she is currently working on a large-scale collaborative project to build a genetic interaction map that will significantly enhance our knowledge of how genes work together in health and disease.



Mahadeo Sukhai
PhD Student, Department of Medical Biophysics

A recipient of many awards including a Canada Graduate Scholarship, Sukhai conducted his doctoral research on the genetics of leukemia at the Ontario Cancer Institute/Princess Margaret Hospital (UHN) and recently defended his thesis. He has served as President of the Graduate Students' Union, member of the University's Governing Council, and advisory board member of the Life Sciences Career Development Series. An advocate for accessibility, he is currently Interim President of the National Educational Association of Disabled Students.

Clinical Sector

Our students are in the enviable position of learning from physicians and scientists who are the leading experts in their field.

Our 13 clinical departments include Anesthesia, Family and Community Medicine, Laboratory Medicine and Pathobiology, Medical Science, Medical Imaging, Medicine, Obstetrics and Gynecology, Ophthalmology and Vision Sciences, Otolaryngology – Head and Neck Surgery, Paediatrics, Psychiatry, Radiation Oncology, and Surgery. Our undergraduate and postgraduate medical education programs attract the best and brightest students from across Canada and around the world.

The Faculty of Medicine trains outstanding health professionals and is committed to maintaining their expertise throughout their careers. In 2006, the Office of Inter-Professional Education opened with support of our 10 fully affiliated hospitals and HealthForceOntario. Our commitment to innovation in education extends to our faculty through the programs in our Surgical Skills Centre at Mount Sinai Hospital, the Centre for Faculty Development at St. Michael's Hospital, and the Wilson Centre at the University Health Network, representing premier centres of their kind in North America.

The Department of Family and Community Medicine's International Programs, led by Professor Yves Talbot, is one of many initiatives in our Faculty that address global health challenges. Working in partnership with universities and municipal health departments in Brazil, Chile and Colombia, these innovative programs focus on capacity-building training in primary health care and assist these countries in developing interdisciplinary health care teams to serve their most vulnerable populations. Professor Talbot and his team have recently been recommended for approval of a \$2.3 million grant from the Canadian International Development Agency.



Stan Zlotkin

Professor, Departments of Paediatrics, Nutritional Sciences and Public Health Sciences; Hospital for Sick Children

The inventor of the micro-nutrient home-fortification supplement that is transforming the health of undernourished children in the developing world, Zlotkin was appointed to the Order of Canada and received the CIHR Knowledge Translation Award in 2006.



Anne Bassett

Professor, Department of Psychiatry; Centre for Addiction and Mental Health

Professor Bassett holds the Canada Research Chair in Schizophrenia Genetics and is an international leader in this field of research. Her identification of genetic subtypes of schizophrenia has significantly advanced the diagnosis and management of this debilitating disease.



Woganee Filate

Fourth-year MD Student

Filate is a multiple award-winning student who completed a master's in Community Health at U of T before entering our MD program. While an undergraduate, she participated in an independent research project on HIV/AIDS in Africa. In addition to her studies, Filate co-edited the U of T *Undergraduate MD Clinical Examination Handbook* and has been an active member of the Black Medical Students Association, amongst other co-curricular activities. She will be commencing an Internal Medicine residency program at U of T in the Fall of 2007.

Rehabilitation Sector

The Faculty is Canada's leader in innovative rehabilitation research and education. Our goal is to foster more rigorous research in rehabilitation with our partners, to ensure that practice is evidence-based and that scarce health care resources are used wisely.

The Departments of Physical Therapy, Occupational Science and Occupational Therapy (OS & OT), Speech-Language Pathology (SLP), and the Graduate Department of Rehabilitation Science, work in partnership with flagship rehabilitation clinical facilities such as the Toronto Rehabilitation Institute, and the Baycrest Centre for Geriatric Care. Together they provide state-of-the-art education and research that is defining best practice and offering new treatment approaches and prevention strategies.

Luc de Nil's (SLP, University Health Network) work with modern functional neuroimaging technology continues to advance our understanding of the brain processes underlying speech disorders such as stuttering and Tourette's syndrome. The research of Helen Polatajko (OS & OT) has led to the development of the Cognitive Orientation to daily Occupational Performance (CO-OP), a cognitive-based approach to the treatment of occupational performance problems that has been accepted world-wide.

Award-winning researcher Alex Mihailidis (OS & OT, Toronto Rehabilitation Institute) has been investigating the uses of technology and artificial intelligence to promote independence and ensure the safety of patients in the home. He has developed and clinically tested two prototypes of devices that use artificial intelligence to assist patients with cognitive disabilities such as dementia during hand washing, and this past year developed a robotic device to help stroke patients exercise weakened upper body muscles.



Angela Colantonio
Professor, Department of Occupational Science and Occupational Therapy; Toronto Rehabilitation Institute

The Saunderson Family Chair in Acquired Brain Injury Research, Colantonio has completed one of the largest long-term follow-up studies of persons with traumatic brain injury in the United States and is also an award-winning educator.



Pascal van Lieshout
Professor, Department of Speech-Language Pathology; Toronto Rehabilitation Institute

A Canada Research Chair in Oral Motor Function Across the Life Span, van Lieshout heads the Oral Dynamics Laboratory, one of the few labs in the world equipped to examine the control of oral structures (including the tongue) in speaking and swallowing relevant to diseases such as Parkinson's.



Dina Brooks
Professor, Department of Physical Therapy; Toronto Rehabilitation Institute and West Park Health Care Centre

A member of the Heart & Stroke/Richard Lewar Centre of Excellence at U of T, Brooks is the holder of a New Investigator Award from the CIHR and the recipient of numerous awards including the Canadian Physiotherapy Association Mentorship Award.



Sara McEwen
PhD Student, Graduate Department of Rehabilitation Science

McEwen is a physiotherapist working in the field of stroke rehabilitation, and is the recipient of a three-year Canada Graduate Scholarship from the Social Sciences and Humanities Research Council. She was also awarded research funding from the Physiotherapy Foundation of Canada to investigate the utility of the Cognitive Orientation to daily Occupational Performance intervention for stroke rehabilitation.

Community Health Sector

The Departments of Public Health Sciences, and Health Policy, Management and Evaluation make up the Community Health Sector. They are linchpins in our multidisciplinary approach to health education and research at the Faculty of Medicine.

Drawn from a wide variety of disciplines, our Community Health researchers expand knowledge and create innovations that are necessary to meet the health challenges we face in Canada and throughout the world. At the McLaughlin-Rotman Centre for Global Health (University Health Network), Abdallah Daar (Public Health Sciences and Surgery) and Peter Singer (Medicine) lead a team of more than 35 researchers from around the world and have recently been awarded a significant grant from the Bill & Melinda Gates Foundation to support their work in biotechnology and global health.

The Community Health Sector is developing the educators, researchers, policy-makers and administrators who will shape health care in the years to come. Home to many collaborative programs with other departments, faculties and universities, the coming year will see the establishment of a new collaborative program in Women's Health and a new master's program in Health Informatics, in partnership with U of T's Faculty of Information Studies and the David R. Cheriton School of Computer Science at the University of Waterloo.



Ross Baker
Professor, Department of Health Policy, Management and Evaluation

One of Canada's leading experts in the field of patient safety and quality improvement, Baker co-chairs a working group on patient safety for the World Health Organization, and is completing research on strategies used to improve care in five high performing health care systems in the U.S. and Europe.



Cornelia Wieman
Professor, Department of Public Health Sciences

Canada's first female Aboriginal psychiatrist, Wieman is Co-Director of the University's Indigenous Health Research Development Program. She works directly with Aboriginal communities to identify determinants of mental health and new approaches to prevent depression and suicide. Her many honours include a National Aboriginal Achievement Award for career achievement in medicine.



Kerry Kuluski
PhD Student, Department of Health Policy, Management and Evaluation

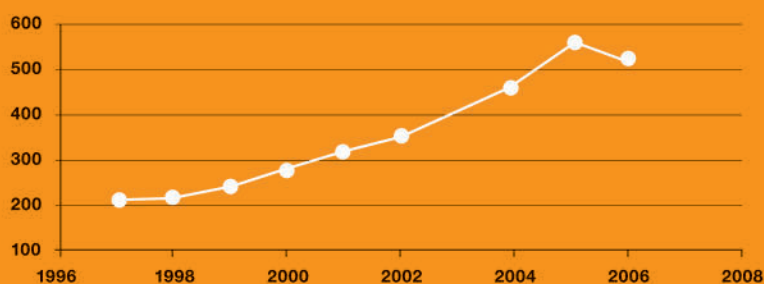
Kuluski is the recipient of a three-year CIHR doctoral award to support her research on the distribution of health and social care resources for seniors in Northern Ontario. In addition to her studies, Kuluski works as a research assistant for the CIHR Team in Community Care and Health Human Resources and is captain of the Varsity track and field team. She is a three time Academic All Canadian (a national honour that recognizes both athletic and academic success).

Leading Through Research

With our hospital partners, we are the largest research entity in Canada, and third in North America.

In 2006, our faculty members received more than \$524 million in external research funding, representing 6,835 separate grants. Twenty-six of our faculty received Canada Research Chair awards and renewals this past year. Between 2000 and 2005, our faculty had over 20,000 studies published in peer-reviewed journals, and over 179,000 citations.

Faculty of Medicine Total Research Funding (in millions)



Leading Through Education

We are Canada's pre-eminent medical Faculty with unparalleled post-graduate medical training, unique health professional programs, and the country's largest provider of accredited continuing education for health professionals.

The Faculty's unique position within one of North America's largest health sciences networks provides our learners with access to world-leading experts and cutting-edge technologies.

Research Highlights Include:

- Professor Peter St George-Hyslop (Department of Medicine, University Health Network), Alzheimer Ontario Chair in Alzheimer's Disease Research, along with his team of investigators at the Centre for Research in Neurodegenerative Diseases discovered another gene responsible for Alzheimer's disease.
- Professor Stephen Scherer (Medical Genetics & Microbiology, Hospital for Sick Children), Director of the Centre for Applied Genomics, led an international study that identified a genetic link to autism.
- Professor Lewis Kay (Biochemistry, and Medical Genetics & Microbiology), Canada Research Chair in Proteomics, Bioinformatics and Functional Genomics, identified the dynamics of the largest protein complex to date using nuclear magnetic resonance.
- Professor Min Zhuo (Physiology), EJLB-CIHR Michael Smith Chair in Neurosciences and Mental Health, identified how and where a painful event becomes permanently etched in the brain.
- Professor Tania Watts (Immunology), made a key breakthrough in understanding the role T-cells play during the immune responses to viral infection, which offers potential new therapies for disease.

Educational Highlights Include:

- The opening of the Health Sciences Building in January 2006, which brought together the Departments of Family and Community Medicine; Health Policy, Management and Evaluation; Public Health Sciences; and the Faculty of Nursing.
- The expansion of the Undergraduate Medical Society Community Affairs portfolio from 11 to 17 programs, such as the Parkdale Mentoring Program and Woodgreen Seniors Outreach Program.
- The Department of Speech-Language Pathology (SLP) continues to offer the most innovative and unique SLP curriculum in North America, according to the Ontario Council on Graduate Studies review completed last year.

We celebrate our strong partnerships with our affiliated hospitals and research institutes. These partnerships enable the Faculty of Medicine at the University of Toronto to realize its vision of international leadership in health research and education.

MAY 2007



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