



A snapshot of achievements at the Schulich School
of Medicine & Dentistry, Western University 2012-13

**We are
innovating
for better
health.**



**We are
reaching
up and
reaching
out.**

The Schulich School of Medicine & Dentistry has a bold and exciting vision to become a global leader in optimizing life-long health through innovations in research, education and active engagement with our communities. With more than 130 years of experience, we have what it takes to get us there. And with our ten-year strategic plan in hand we will stay focused and on track.

As we position the School to be an international leader across both the research and education spectrum, we are actively pursuing new partnerships and collaborations both locally, and across the globe. In doing so, we are advancing our knowledge and contributing to the global community in a meaningful and sustainable manner. Building on a strong base of integrated clinical, educational and research excellence, we aim to enrich our programs, develop innovative teaching methods, enhance our distributed medical education model and update our facilities.

Each and every day, our faculty, staff and students are working to achieve our mission and vision and extraordinary things are happening. Through this report, you will see a snapshot of our achievements from the past year as we work to change the future of health care.

Michael J. Strong, MD, FRCP(C), FAAN, FCAHS
Dean, Schulich School of Medicine & Dentistry
Distinguished University Professor, Western University

**We are
creating new
knowledge
that will
improve
quality of life.**

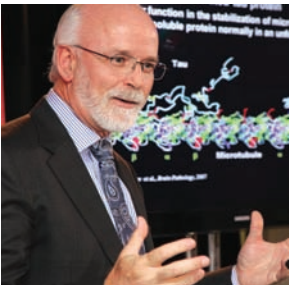


The Schulich School of Medicine & Dentistry is an international leader in health research, delivering breakthrough discoveries that have profoundly changed health care. New research continues to bring new hope and provides an improved quality of life for people around the world.

A breakthrough leading to the understanding of a common form of arthritis known as DISH (diffuse idiopathic skeletal hyperostosis) has been made. Dr. Cheryle Séguin, professor, Department of Physiology and Pharmacology, with her collaborators have discovered the first-ever mouse model of this disease. Researchers will now be able to uncover the mechanisms underlying DISH and related disorders, eventually leading to testing of treatments for humans.



PMMicro-CT image of mouse skeleton, showing excessively mineralized lesions in red along the spinal column and sternum.



Dr. Michael J. Strong will lead a new neurodegenerative diseases research project uniting clinician-researchers and basic scientists from across Ontario.

Grapefruit sours the effect of prescription drugs

The number of prescription drugs that can have serious adverse effects from interactions with grapefruit are markedly increasing, yet many physicians may be unaware of these effects. According to Dr. David Bailey, professor emeritus, Department of Medicine and his co-authors, many of the drugs that interact with grapefruit are highly prescribed and are essential for the treatment of important or common medical conditions. Between 2008 and 2012, the number of medications with the potential to interact with grapefruit and cause serious adverse effects has increased from 17 to 43, representing an average rate of increase exceeding six drugs per year. This increase is a result of the introduction of new chemical entities and formulations.

A kit for increasing insulin production

A novel finding regarding insulin-producing beta cells is good news for the more than two million Canadians living with diabetes. A research team led by Dr. Rennian Wang, associate professor, Departments of Medicine, and Physiology and Pharmacology, has identified the critical role of a receptor called c-Kit in the development and function of insulin-producing beta cells, making it an exciting therapeutic target for the management of diabetes. The research demonstrated that overexpression of c-Kit leads to increased insulin production and counteracts the early diabetic effects of a high-fat diet.

Opening the door for new therapies

The identification of a new genetic mutation for amyotrophic lateral sclerosis (ALS) has been identified by Dr. Michael J. Strong, dean and Distinguished University Professor in Clinical Neurological Sciences and his colleagues. They have identified mutations within the ARHGEF28 gene that are present in ALS. When they looked across both familial and sporadic forms of the disease, they found virtually all cases of ALS demonstrated abnormal inclusions of the protein arising from this gene. This discovery will open the door to future targeted therapies.

Uniting researchers to tackle neurodegenerative diseases

A new neurodegenerative diseases research program uniting clinician-researchers and basic scientists from across Ontario will tackle the growing concern of brain disorders that lead to impairments in memory and cognition. The project, led by Dr. Michael J. Strong, dean, Schulich Medicine & Dentistry is expected to receive \$15 million from the Ontario Brain Institute along with \$5 million from other sources. It will study the contribution of vascular disease to neurological disorders and focus on defining the earliest markers of cognitive change to develop and evaluate proactive treatment strategies.

**We are
driving
knowledge
into action.**



Our research programs are truly translational and span the continuum from basic research and clinical trials, to population and health research.

In 2013, nearly 400,000 children were infected with AIDS/HIV, and nearly two million people died of the infection. The first and only preventative HIV vaccine based on a genetically modified killed whole-virus, developed by Dr. Chil-Yong Kang, professor emeritus, Department of Microbiology and Immunology and his team, has been making steady progress in Phase I Clinical Trials in the United States and the interim results are being analyzed in preparation for the next steps.



Dr. Chil-Yong Kang



Dr. Stewart Harris

Trials identify improved response for Crohn’s sufferers

Crohn’s Disease causes inflammation, or swelling, and irritation of any part of the gastrointestinal tract. First described in 1932, this chronic disease can be crippling for many of its sufferers. Dr. Brian Feagan, professor, Departments of Medicine, and Epidemiology and Biostatistics and director, Roberts Clinical Trials is one of the authors of a new study published in the New England Journal of Medicine investigating the efficacy of a drug called Ustekinumab. The drug has been found to improve the well-being of these difficult-to-treat patients, who don’t respond to other treatments.

Improving community health

Dr. Stewart Harris, professor, Department of Epidemiology and Biostatistics, and Family Medicine is focusing his latest research project on a community lifestyle program which aims to increase awareness and improve care of First Nations women with gestational diabetes. The project is comprised of a healthy lifestyle component focusing on exercise during pregnancy with the use of cutting-edge technology—continuous glucose monitors —which can record blood sugar levels every two minutes, along with traditional finger-prick testing.

Virtual reality aids those with Parkinson’s disease

For people living with Parkinson’s disease, daily tasks that involve multitasking can be a challenge. It is the decision making process involving a number of decisions that they can find overwhelming. Dr. Mandar Jog, professor, Department of Clinical Neurological Sciences is using a technology called ‘augmented immersion virtual reality’, allowing patients to perform real-life tasks. An environment has been created virtually which is then transmitted to patients through a set of virtual reality goggles. As patients move around the room, the goggles ‘read’ a series of sensors and markers that indicate where the walls, windows and other objects are located. Dr. Jog will assess how patients with Parkinson’s perform within each virtual scenario and whether their performance improves with repetition.

**We are
preparing the
next generation
of health care
and academic
professionals.**



Our students acquire an outstanding education that is supportive, is provided by nationally recognized professors, and offers unique learning opportunities.

Dr. Mark Goldszmidt, associate professor, Department of Medicine and acting director for the Centre for Education Research & Innovation received one of 10 3M Teaching Fellowships. The Fellowship is the most prestigious acknowledgement of teaching excellence in Canada. Dr. Goldszmidt teaches his students the value of developing a collaboration with their patients and the health care teams they work with.



Dr. Mark Goldszmidt, 2013 3M Teaching Fellowship recipient.



Adrienne Elbert, one of five Vanier Scholarship recipients.

Learner equity & wellness

Providing support for the wellness of students across Schulich School of Medicine & Dentistry will be strengthened through the establishment of the Learner Equity and Wellness Office. The office focuses on the physical, psychological and professional safety of learners, as well as supporting academic wellness and providing career guidance. The office also promotes the pillars of professionalism and provides support for students who experience learning in both academic and clinical settings.

London Health Research Day

London Health Research Day celebrates the world-class medical and health related research conducted at London’s premier medical research institutions, while providing a unique learning experience for hundreds of graduate students and postgraduate fellows. The 2013 event featured 400 poster and platform presentations across 15 different research themes. A highlight of the event was the participation of Dr. Terry Kenakin, professor, Department of Pharmacology, University of North Carolina Medical School, Chapel Hill, North Carolina who served as the inaugural Lucille and Norton Wolf Health Research Lecture Series speaker and also presented a career information session to students.

Five times the charm

Five Schulich School of Medicine & Dentistry students were named recipients of the Vanier Canada Graduate Scholarship, Canada’s most prestigious scholarship for doctoral students. These students were recognized for their leadership skills and a high standard of scholarly achievement. The scholarship, worth \$50,000 per year for three years is available to both Canadian and international PhD students studying at Canadian universities. The School’s honorees were: Adrienne Elbert, MD/PhD candidate, Biochemistry and Paediatrics; Matthew Meyer, PhD candidate, Epidemiology and Biostatistics; Krista Vincent, MD/PhD candidate, Anatomy and Cell Biology; Susan Huang, MD/PhD candidate, Medical Biophysics; Daniel Langohr, PhD candidate, Biomedical Engineering.

**We are
providing an
exceptional
learning
experience.**



The Schulich School of Medicine & Dentistry offers an educational experience second to none. As we look to the future, we are enriching our educational programs, enhancing our facilities, providing increased support for our students and adapting our teaching methods.

Drs. Marjorie Johnson, Anita Woods and Jerry Battista are changing the face of teaching by incorporating new and unique teaching methods. From the use of props such as footballs and bed sheets to utilizing real-time Twitter in lecture, to the invention of the desk-top CT Scanner which demonstrates how imaging equipment really works, the School's faculty are using creative teaching methods to inspire and inform the next generation of students.



Dr. Anita Woods, 2103 Marilyn Robinson Teaching Award recipient.



The Pathology Assistant program is one of the newest professional graduate programs at Schulich Medicine & Dentistry.

Specialized graduate programs

As innovators in education, the School has been planning and implementing new specialized graduate programs. A newly accredited professional Pathology Assistant program welcomed its first class in 2012, as did Canada's only multidisciplinary program in Musculoskeletal Health. Developed in partnership with the faculties of Engineering, Health Sciences, Science and Social Science, this program offers collaborative research and development opportunities for students. A new Master of Public Health, two accelerated Master of Science programs, one in Microbiology and Immunology and one in Biochemistry, are set to begin in the fall of 2015.

Caring for our diverse communities

Schulich Dentistry has a commitment to develop in dental professionals, the knowledge and skills to provide exemplary care to the diverse communities and patient populations they serve. The construction of a new General Anesthetic Suite speaks to these values by providing a specialized care setting for young children and special needs patients, as well as for patients with complicated dental treatments such as restorative work, oral surgery or periodontal treatments. The Suite will positively impact Schulich Dentistry students by providing them with more hands-on clinical experience working with special needs patients. It will also enhance the interdisciplinary training offered to students as they will work much more closely with the General Anesthesia program and other specialties.

Feeding the spark

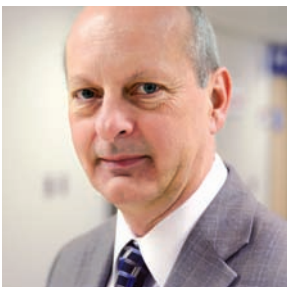
In a new initiative to strengthen the School's graduate student training and to continue to invest in the best, four students received a Dean's Stipend for Graduate Research. The students were chosen, as leaders saw in them a spark that elevates good research to greatness. The recipients include Charles Ishak, Biochemistry; Warren Winick-Ng, Physiology and Pharmacology; Maha Hammad, Physiology and Pharmacology; and Ian Lobb, Microbiology & Immunology. The value of PhD Graduate Stipend will be a maximum of \$25,000 per year for the student's full graduate program residency period and the Dean's MSc to PhD Transfer Stipend will be a maximum of \$5,000 per year for the student's remaining full graduate program residency period.

**We are
developing
sustainable
partnerships
around
the world.**



Throughout our history, we have taken a leadership role in developing partnerships by collaborating with leading scientists and scholars around the world. In doing so, we have advanced our own knowledge and enhanced our ability to treat disease while providing missions of care and hope.

With more than 25 years of experience in the development of international partnerships, Dr. John Denstedt, chair/chief, Department of Surgery has taken on a new role as Special Advisor to the dean, on Internationalization, Globalization and Simulation. The role identified in the School's White Paper on Internationalization and Globalization will guide the School's efforts in establishing new, and strengthening existing partnerships around the world.



Dr. John Denstedt



The Schulich School of Medicine & Dentistry has worked with partners in Rwanda to rebuild its health care program.

Rwanda efforts continue

For nearly a decade, Dr. David Cechetto has been working with the people of Rwanda to assist them in rebuilding their health care program. His tremendous efforts have been recognized through the awarding of Western University's Humanitarian Award. With the honour, Dr. Cechetto receives \$5,000, which will be used to support postgraduate training of Rwandan health care teachers. His work will be furthered through a \$2.6 million Canadian International Development Agency (CIDA) grant to address maternal, newborn and child-health issues in Rwanda.

The sum of the parts is stronger than the individual

Southwestern Ontario offers a rich landscape of education, health care and research institutes. Together, we have a collective mission to advance patient and population health across the region and country. And now we are working together to establish the Southwestern Ontario Academic Health Network (SWAHN), one of only five such networks in Canada.

NATO's highest honour

For the past six years, Drs. Ray Kao and Vivian McAlister, Department of Surgery and Dr. Brian Church, Department of Anesthesia and Perioperative Medicine have spent numerous months in Afghanistan providing advanced surgical and medical care to coalition, Afghan civilian and enemy casualties. This past year, their unit was recognized with NATO's highest honour for medical support and received the Dominique-Jean Larrey Award.

Recognizing innovative global initiatives

Bold and innovative research that addresses the needs of humanity globally was rewarded with \$200,000 in funding. Dr. Gregor Reid, Departments of Microbiology & Immunology, and Surgery and his team were recipients of a Grand Challenges Explorations grant offered through The Bill & Melinda Gates Foundation. The team is in Tanzania testing if a yogurt supplemented with the Moringa plant can benefit under-nourished pregnant women by improving their breast milk quality and the types of bacteria present in their intestines.

Drs. David Spence, and Daniel Hackam received \$100,000 from the Grand Challenges Canada Stars in Global Health program to address the problem of resistant hypertension in people living in Kenya, Nigeria, Rwanda and South Africa.

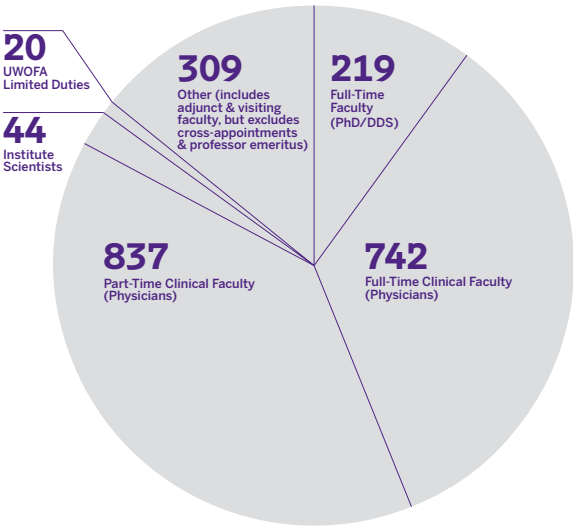
Dr. Spence is a Professor of Neurology and Clinical Pharmacology, and Director of the Stroke Prevention and Atherosclerosis Research Centre at Robarts Research Institute, and a scientist at Robarts. Dr. Hackam is an Assistant Professor in the Departments of Medicine, Clinical Neurological Sciences, and Epidemiology and Biostatistics.

**Schulich
Medicine
& Dentistry
by the
numbers.**

RESEARCH FUNDING 2008-2012	
2008-2009	135.5m
2009-2010	139.5m
2010-2011	130.5m
2011-2012	138.5m

FUNDRAISING DOLLARS	
2007-2008	12.5m
2008-2009	9.5m
2009-2010	5.5m
2010-2011	10.5m
2011-2012	13.5m

HUMAN RESOURCES: FACULTY COMPLEMENT 2,171



HUMAN RESOURCES: STAFF COMPLEMENT 1,721



CANADA RESEARCH CHAIRS

Dr. Ann Chambers ONCOLOGY
Dr. Stephen S. G. Ferguson MOLECULAR NEUROBIOLOGY
Dr. Robert A. Hegele EDITH SCHULICH VINET CANADA RESEARCH CHAIR IN HUMAN GENETICS
Dr. Shawn Li FUNCTIONAL GENOMICS AND CELLULAR PROTEOMICS
Dr. Peter Rogan GENOME BIOINFORMATICS
Dr. Amardeep Thind HEALTH SERVICES RESEARCH

Dr. Sean Cregan NEURODEGENERATION AND STEM CELL REGENERATION
Dr. S.M. Mansour Haeryfar VIRAL IMMUNITY AND PATHOGENESIS
Dr. Morris Karmazyn EXPERIMENTAL CARDIOLOGY
Dr. Charles McKenzie TRANSLATIONAL MAGNETIC RESONANCE IMAGING
Dr. Gary S. Shaw STRUCTURAL NEUROBIOLOGY
Dr. Charles Weijer BIOETHICS

Dr. Aaron Fenster MEDICAL IMAGING
Dr. Victor Khin Maung Han FETAL AND MATERNAL HEALTH
Dr. Dale W. Laird GAP JUNCTIONAL INTERCELLULAR COMMUNICATION AND DISEASE
Dr. Ravi S. Menon FUNCTIONAL MAGNETIC RESONANCE IMAGING
Dr. Moira Stewart DR. BRIAN W. GILBERT CANADA RESEARCH CHAIR IN PRIMARY HEALTH CARE

SCHULICH SCHOLARSHIPS

MEDICINE	DENTISTRY	GRADUATE STUDIES BASIC MEDICAL SCIENCES
60 ANNUAL RECIPIENTS	15 ANNUAL RECIPIENTS	50+ ANNUAL RECIPIENTS
\$20,000 TOTAL VALUE PER STUDENT, PER YEAR	\$10,000 TOTAL VALUE PER STUDENT, PER YEAR	\$15,000 (\$5,000 SCHULICH SCHOLARSHIPS, \$10,000 OGS/QEII)*
\$80,000 TOTAL VALUE PER STUDENT OVER LENGTH OF PROGRAM	\$40,000 TOTAL VALUE PER STUDENT OVER LENGTH OF PROGRAM	— DEPENDS ON PROGRAM LENGTH OVER LENGTH OF PROGRAM
\$1,200,000 TOTAL ANNUAL VALUE OF THE SCHOLARSHIP	\$150,000 TOTAL ANNUAL VALUE OF THE SCHOLARSHIP	\$750,000+ TOTAL ANNUAL VALUE OF THE SCHOLARSHIP

*OGS stands for Ontario Graduate Scholarships. QEII stands for Queen Elizabeth II Scholarships.

NOTABLES

Dr. Jane Rylett 2013 DISTINGUISHED UNIVERSITY PROFESSOR	Dr. Robert Bourne MEMBER, ORDER OF CANADA	Dr. Vladimir Hachinski NAMED TO ORDER OF ONTARIO
Dr. Anita Woods 2013 MARILYN ROBINSON TEACHING AWARD AND THE UNIVERSITY STUDENTS COUNCIL AWARD OF EXCELLENCE IN UNDERGRADUATE TEACHING	Dr. Cecil Rorabeck OFFICER, ORDER OF CANADA	Dr. Jatinder Takhar HIND RATTAN AWARD (JEWEL OF INDIA) BY THE NON RESIDENT INDIAN (NRI) WELFARE SOCIETY OF INDIA
Dr. Graeme Hunter 2013 FACULTY SCHOLAR	Dr. Lorelei Lingard EXECUTIVE LEADERSHIP IN ACADEMIC MEDICINE (ELAM) FELLOWSHIP	Anna Farias Dr. Carla Garcia Dr. Michael Ott 2013 CAME (CANADIAN ASSOCIATION FOR MEDICAL EDUCATION) CERTIFICATE OF MERIT AWARD
Dr. Marco Prado 2013 FACULTY SCHOLAR	Dr. Candace Gibson 2013 AFMC-INFOWAY E-HEALTH FACULTY AWARD	Dr. Victor Han 2012 PAEDIATRIC ACADEMIC LEADERSHIP CLINICIAN INVESTIGATOR AWARD
Dr. Michael J. Strong Dr. Arthur Hudson Dr. George Klein Dr. Stephen Ferguson Dr. Harinder Sandhu Dr. Vivian McAlister Dr. Ray Kao Dr. Len Cortese Dr. Osman Tarabin Dr. Christopher Schlachta Dr. William Wall Dr. Bill Clark DIAMOND JUBILEE MEDAL	Dr. Laura Diachun 2013 PHYSICIAN INNOVATOR IN EDUCATION AWARD	Dr. Warren T. Blume AES 2012 J. KIFFIN PENRY EXCELLENCE IN EPILEPSY CARE AWARD
	Dr. David Cechetto 2013 WESTERN HUMANITARIAN AWARD	Dr. Walter Siqueira 2012 IADR SALIVARY RESEARCHER OF THE YEAR
	Dr. Janet Pope CANADIAN RHEUMATOLOGY ASSOCIATION'S DISTINGUISHED INVESTIGATOR AWARD	Dr. Lorne Parnes AAO—HEAD AND NECK SURGERY DISTINGUISHED SERVICE AWARD
	Dr. Chris Brandl BIOMEDICAL SCIENCE AMBASSADOR AWARD	
	Dr. Cindy Hutnik THE YMCA WOMEN OF EXCELLENCE AWARD FOR HEALTH, SCIENCE & TECHNOLOGY	

EDUCATION PROGRAMS

684

MEDICAL STUDENTS

226

DENTISTRY STUDENTS

812

STUDENTS IN YEARS THREE AND FOUR OF
THE BACHELOR OF MEDICAL SCIENCES

943

POSTGRADUATE MEDICAL TRAINEES

4

HOSPITAL-BASED POSTGRADUATE
DENTAL RESIDENTS

9

TRAINING IN SPECIALIZED
POSTGRADUATE DENTISTRY PROGRAMS

6

GRADUATE STUDENTS IN ORAL AND
MAXILLOFACIAL SURGERY

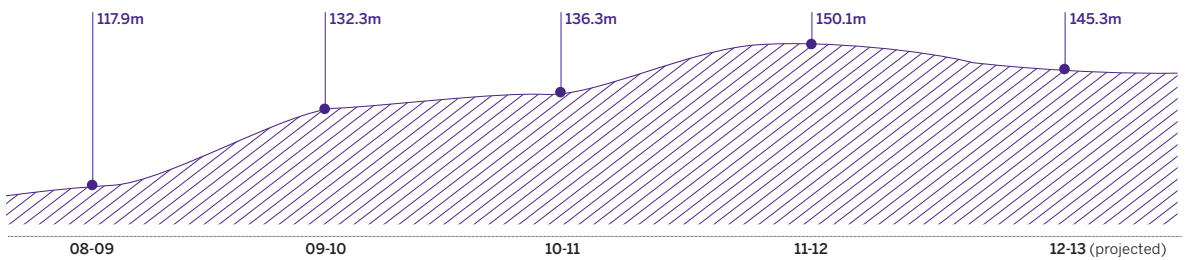
41

STUDENTS IN THE INTERNATIONALLY
TRAINED DENTISTS PROGRAM

589

GRADUATE STUDENTS

TOTAL OPERATING REVENUE (IN MILLIONS) 2008–2013



2011–2012 REVENUE BREAKDOWN (IN MILLIONS)



63.8m

WESTERN
UNIVERSITY
TO MEDICINE



10.3m

WESTERN
UNIVERSITY
TO ROBARTS



13.3m

WESTERN
UNIVERSITY
TO DENTISTRY



14.6m

OTHER—INCLUDES
CRC FUNDING,
DONATIONS &
STUDENT FEES



8.0m

ALTERNATE
FUNDING
PLAN



20.4m

CLINICAL TITHES
& TRANSFERS
FROM FUND
ACCOUNTS



19.7m

MINISTRY OF
HEALTH & HOSPITAL
ENVELOPE FUNDING

At the Schulich School of Medicine & Dentistry, we are proud of our achievements, while maintaining a strong focus on the future. We have a clear vision and a passionate commitment to our goals. Knowledge creation and translation. Exceptional education and learning. Partnership and networks that span the globe. International leadership that helps people live long and healthy lives.

We are optimizing life-long health.