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DIRECTOR’S MESSAGE

It is my pleasure to present this annual report highlighting the Cardiovascular Sciences Collaborative Program’s (CSCP) activities and accomplishments for the 2012-2013 academic year. This has been a pivotal year for the CSCP with a major restructuring of the administrative office to be as cost effective as possible while maintaining the high standards the CSCP has achieved to date. This is critical as we proceeded to approach our academic partners for support. As you read through the report, it should be immediately apparent that the CSCP does the extra to ensure that our trainee’s experiences are optimized and that our efforts dovetail with those of our participating Faculties, Departments and Institutes/Centres. This enhances both programs; making this the best place for graduate training in this field.

As evidenced by the data in this report, student enrollment over the last 5 years has been such that despite significant numbers of graduating students each year, these have been replaced by new admissions thereby maintaining a total of around 70 students annually involved in the program. I am particularly pleased with these numbers as it reflects student enthusiasm for the program. As well, the completion numbers which are close to 100%, illustrate their dedication to training and the value added the CSCP brings. I am very proud and grateful to our faculty who have mentored our students through to their successes. I also expect these numbers to once again rise as some of our less active academic partner units will be more involved in the future.

The high level of student satisfaction with the Program is confirmed during their annual meeting with the CSCP Student Affairs Committee Chair and the exit surveys we continue to receive. These annual meetings also help guide our direction and, if needed, address any student concerns early, thus further assuring that we stay on track to meet the ever changing student needs. Evaluation surveys we conduct also record the students’ appreciation for the annual student research day, seminars held and courses we run. It continues to be true that today’s
discerning student is well aware that it is not enough to just fulfill their department’s degree requirements if they hope to succeed post graduation. Even those who chose to enter professional degree programs know that a specialist certification, such as that issued upon successful completion of the CSCP, is a statement of excellence that provides them with an edge. All our students benefit from personal contact with our faculty who are top University of Toronto cardiovascular scientists from across the campus because they are involved with the CSCP at every level from administration to teaching to supervision. This has given the CSCP trainee exposure to the diversity of excellence we have both on campus and at our teaching hospitals and research centres. In the progressively more difficult financial times we face, clearly any time taken from the research done by the student could be viewed as lessening the productivity for the supervisor, yet participation in the CSCP is promoted. This is a testimonial to the value and quality offered by the CSCP to the cardiovascular research community and its’ trainees.

As in previous years, details on the many highlights related to CSCP activities can be found within the body of this report and on our web site at www.cscp.utoronto.ca. The flagship event continues to be the day long Student Research Day, where students are able to network with other students across the campus in the many differing disciplines. This event is organized by the students and this past year a creative addition was to have lunch-and-learn sessions on career relevant topics which was well received. In addition, by sharing their research with their peers at the day, they learn from each other and we often hear that new collaborations with groups outside the students normal sphere evolve from their interactions within the CSCP. Another example of this, which is organized by the CSCP students, is 'Circulation Rounds', which consist of visits to the different research locations of our diverse faculty. This allows the students to meet and experience current and ongoing projects in the cardiovascular arena. The summer CSI series which has evolved to include practical visits to facilities such as Toronto Rehabilitation Centre and the Surgical Skills Laboratory further expands the awareness of the breadth and depth offered at the University of Toronto in the cardiovascular sciences. Our flagship graduate course JCV3000 series, made up of 4 modules each worth .5 FTE, continues to be very popular, and the evaluations rank each module very highly.

While maintaining our academic excellence, this past year we have embarked on the journey to fiscal sustainability by establishing the 'Office of Collaborative Programs' with its hub within the space and resources provided by the CSCP. This is a unique concept whereby a number of like minded programs are administered through one common office. As of January 1, 2013 the CSCP, CPIN and the Sleep and Biorhythms Program are all administered together thereby effectively reducing each group's costs by sharing jointly in the office infrastructure. It is also anticipated that the future Collaborative Program in Developmental Biology will also join this initiative further strengthening the concept. I also met with each Chair and Director of our partner units to re-visit their participation. I am pleased to say that this was a most productive endeavor which resulted in commitments, bridge funding, and a willingness to provide financial support annually, as needed, until the CSCP is able to fundraise successfully by those who felt their continued participation in our quality program of value. The fundraising side has been helped along with a commitment from the Department of Physiology to make the CSCP one of its' fundraising initiatives. It is also worth a mention that the CSCP is one of the few if not the only collaborative program that yearly allocated more than $153,000 of student support including scholarships, bursaries and awards yearly. The CSCP is pleased to be able to provide this tangible monitary benefit for our partner units as but one compensation for their support.

In wrapping up, I wish to once again take a moment to thank Drs. Margaret Rand and Scott Thomas, Chairs of the Scholarship & Awards Committee and Student Affairs Committee respectively, who volunteer their time to make that extra contribution. They have dedicated
many selfless hours to their additional responsibilities, which has been key to the ongoing academic success of the CSCP. I wish to also welcome Dr. Tony Gramolini who graciously agreed to take over the helm of the Curriculum Subcommittee, which oversees our courses and other educational delivery. Then there is our Senior Administrator/Business Officer, Victoria Simpson, who has gone beyond any call to duty during this past year of restructuring and has risen to the difficulties presented with the addition of the other programs to her administrative portfolio. She is and continues to be the real soul of the CSCP, and under her guidance the other programs have also benefited from her years of experience and commitment. Finally, it goes without saying that the CSCP is really about the active participation by our students and faculty who teach, organize and contribute in many ways to all our activities making the CSCP exciting and vibrant. It is much appreciated and we could not be where we are today without you all!

Dr. Carin Wittnich, O.Ont.
Director, CSCP
Professor of Surgery & Physiology
Northrop Frye Scholar

MISSION STATEMENT

“The Cardiovascular Sciences Collaborative Program, approved by the University and Ontario Council on Graduate Studies in 1992, and listed in the calendar of the School of Graduate Studies, exists to give formal, organized expression to cardiovascular studies and research at the graduate level. It builds on the strengths of all participating academic units, and other agencies, to enhance the visibility of cardiovascular studies and to facilitate collaborative, interdisciplinary training and research.”

The above mission is achieved by advertising and promoting the importance of, and opportunities in, cardiovascular studies, by making known the results of such studies, by recruitment of excellent students, and by coordinating the graduate collaborative program in cooperation with the academic units in which they are registered. Students in this collaborative program must fulfill the requirements of their home units as well as the Program. Upon graduation the notation “Specialization in Cardiovascular Sciences” will appear on the student’s academic transcript and the Program will present the student with a certificate and gift.

COLLABORATING FACULTIES
Dentistry
Kinesiology and Physical Education
Medicine
Leslie Dan Faculty of Pharmacy

COLLABORATING GRADUATE UNITS
Biomaterials and Biomedical Engineering
Dentistry
Exercise Sciences
Health Policy, Management & Evaluation
Laboratory Medicine and Pathobiology
Medical Biophysics
Medical Science
Nursing Science
Pharmaceutical Sciences
Pharmacology and Toxicology
Physiology
Public Health Sciences
Rehabilitation Science

**SUPPORTING CLINICAL DEPARTMENTS**

Anesthesia
Medicine
Surgery

**COMMITTEES**

**Executive**
The Executive Committee consists of 4 members of the Program Committee representing as wide a range of disciplines as possible and includes the Director. They also act as Chairs of the various subcommittees as noted beside their name. The Executive Committee provides student counseling, screens applicants, provides advice and acts as a Steering Committee.

Dr. C. Wittnich (Fundraising)
Dr. M. Rand (Scholarships & Awards)
Dr. T. Gramolini (Membership/Curriculum)
Dr. S. Thomas (Student Affairs)

**Program**
The Program Committee consists of a representative from each collaborating department as well as two student representatives. It administers the Program, selects the Director, and generally meets twice per year.

C. Wittnich (Chair)
D. Brooks (Rehabilitation Science)
S. Wu (Pharmaceutical Sciences)
D. Mazer (Anesthesia)
J. Parker (Pharmacology)
S. Heximer (Physiology)
D. Steinman (Institute of Biomaterials and Biomedical Engineering)
M. Rand (Laboratory Medicine and Pathobiology)
R-K. Li (Institute of Medical Science)
J. Flanagan (Dentistry)
S. Thomas (Exercise Sciences)
TBA (Health Policy, Management and Evaluation)
F. Silverman (Public Health)
COURSES OFFERED

EXS5508H Cardiovascular Disease and Exercise
JCV1060H Developmental Cardiovascular Physiology
JCV3060H* Advanced Topics in Cardiovascular Sciences – Molecular Biology & Heart Signal Transduction
JCV3061H* Advanced Topics in Cardiovascular Sciences – Hormones
JCV3062H* Advanced Topics in Cardiovascular Sciences – Heart Function
JCV3063H* Advanced Topics in Cardiovascular Sciences – Vascular
JEB1365H Ultrasound: Theory and Applications in Biology and Medicine
JTC1331H Biomaterials Science
LMP1015H Vascular Pathobiology
LMP1504H Cell and Molecular Biology of Cardiovascular Diseases
PSL1462H Molecular Aspects of Cardiovascular Function
* Core Courses for PhD Trainees (2 of 4 modules required); JCV denotes joint listing with most of our collaborating departments.

Suggested Courses (Considered valuable but does not fulfill Program requirements)
CHL5201 Introducing Biostatistics for Students in Biological Sciences I
LMP1404S Cellular and Molecular Mechanisms of Disease

PROGRAM SPONSORED ACTIVITIES

ANNUAL STUDENT RESEARCH DAY
The 14th Annual Cardiovascular Sciences Collaborative Program (CSCP) Student Research Day was held on Wednesday, April 17, 2013. This annual meeting offers trainees an opportunity to present their current research to their peers in a welcoming environment promoting discussion and the free flow of ideas. The day began with opening remarks from the Director, Dr. Carin Wittnich, followed by a day of excellent science presented by the Program students and finishing with inspiring presentations from our guest speakers, Professor Lee Adamson, Depts of Physiology and Obstetrics & Gynecology and Professor Peter Backx, Depts of Physiology and Medicine. New to this year’s schedule was the added optional “Lunch ’n Learn” sessions which focused on creating an academic CV and on undergraduate teaching. Awards were also presented to students who were deemed to have given the best and most innovative presentations and certificates awarded to students who had completed their CSCP training.

STUDENT PRESENTATIONS
As part of the CSCP, all students sometime during their training period. This year students

requirements, all students sometime during their training consists of a 10-minute talk period. This year students
gave presentations in a diverse range of cardiovascular topics as can be seen below, within the 4 sessions.

**Session I: Chair – Danielle Bentley**
Laura Banks (PhD – Institute of Medical Sciences)  
*Enhanced physiology for sub-maximal exercise in children after the Fontan Procedure*

Zach Goodman (MSc – Exercise Sciences)  
*Cardiovascular effects of recreational pick-up hockey on middle-aged men*

Gabriela Ghisi (PhD – Exercise Sciences)  
*Assessment of information needs in cardiac rehabilitation patients using psychometric validated INCR tool*

Kaustabh (Bunty) Singh (PhD – Laboratory Medicine and Pathobiology)  
*β-catenin as a therapeutic target for improving cardiac remodeling after myocardial infarction*

Jake Cosme (MSc – Physiology)  
*Discovery proteomics strategy identifies hypoxia-induced changes in the cardiac fibroblast exosome*

**Session II: Chair – Arash Ghashghai**
Taylor Gray (MSc – Exercise Sciences)  
*Right heart hemodynamics during exercise: the influence of chronic endurance exercise*

Cynthia Abassi (MSc – Physiology)  
*Generation and characterization of ERp44 (TXND4) knockout/knockin mice and zebrafish knock-out to study the role of ERp44 Ca2+ signalling and ER stress in the heart*

Mark Blaser (PhD – Biomedical Engineering)  
*Versican-rich proteoglycan thickening in diet-induced early aortic valve disease in mice*

Uswa Shahzad (MSc – Institute of Medical Science)  
*Transmyocardial revascularization enhances mesenchymal stem cell engraftment in infarcted hearts through SCF—c-kit and SDF-1—CXCR4 signaling axes*

Ethan Ruderman (MSc – Exercise Sciences)  
*Effects of acute aerobic exercise on the pharmacokinetics of the anti-anxiety/anti-depressant drug sertraline.*

**Session III: Chair – Laura Banks**
Richard Cheng (MSc – Physiology)  
*Retinal vascular reactivity response characteristics to oxygen*

Susan El Rass (MSc – Institute of Medical Science)  
*Mutagenic gene trapping to study novel genes in zebrafish cardiovascular development*

Steve Wright (MSc – Exercise Sciences)  
*Left and right atrial function during exercise*

Nima Zamiri (MSc – Institute of Medical Science)  
*Novel strategy for improving survival following Ventricular Fibrillation (VF): new use for an old drug*

**Session IV: Chair – Laura Banks**
Antonio Mauro (MSc – Institute of Medical Science)  
*High throughput analysis of compound efficacy targeting zebrafish vascular development*

Amish Jain (MSc – Physiology)  
*Using established and novel echocardiography imaging to quantify right ventricle dimensions and function in newborn infants during early postnatal transition – assessment of feasibility, reliability and establishing normative data*

Timothy Mak (MSc – Physiology)  
*Effects of surgery and phenylephrine on rectus abdominus muscle and free flap perfusion in a rat model*

**Lunch ‘n Learn Sessions**
This year a new element described as ‘Lunch ‘n Learn’ was introduced into the Annual Student Research Day. Ben Moulton from the Teaching Assistant Training Program led us through some
strategies for creating interactive undergraduate teaching and Carin Wittnich shared some helpful tips about composing a strong academic CV. These sessions were a great success and we look forward to incorporating them into future research days.

**CERTIFICATES/AWARDS**

Dr. Wittnich presented certificates to students who successfully completed the Cardiovascular Sciences Collaborative Program over the past year:

**MSc**
- Tina Hu, IMS (Supervisor: Dr. G. Hare)
- Jemy Joseph, IMS (Supervisor: Dr. V. Rao)
- Sam Esfandiara, EXS (Supervisor: Dr. J. Goodman)
- Luke Tan, PSL (Supervisor: Dr. C. Wittnich)
- Sagar Rohailla, IMS (Supervisor: Dr. C. Calderone)
- Paul Lee, IMS (Supervisor: Dr. H-L. Pol)

**PhD**
- Jane MacIver, IMS (Supervisor: Dr. V. Rao)
- Maral Ouzounian, IMS (Supervisor: Dr. P. Liu)

Congratulations to all the students and success in their future career endeavours!

Continuing the spirit of success and achievement, the annual CSCP student awards were presented by Dr. Carin Wittnich and Dr. Margaret Rand.

**2013 Bigelow Book Prize Recipient – Katherine S. Allen**

The CSCP congratulates Ms. Katherine Allan, a doctoral candidate in the Institute of Medical Science, supervised by Dr. P. Dorian, St. Michael’s Hospital, who was presented with the 2013 Bigelow Book Prize for her continued and sustained academic scientific excellence. The sudden stoppage of a young person’s heart (“heart arrest”) is very upsetting for the victim’s family, friends, and community. In the majority of cases, the heart stops pumping when it goes into a dangerous rhythm and in almost all cases, the young people die. Recent reviews have highlighted our lack of information on how many young people die every year, including the cause of why their heart suddenly stopped and if the cause is due to something in their genes. We want to understand why certain young people’s hearts suddenly stop functioning, in order to see what can be done to prevent these events from happening in the first place. We think that by figuring out how many young people die suddenly each year in the Greater Toronto Area as well as why their hearts suddenly stopped might help prevent events in family members at risk.
2012-13 Lorne Phenix Graduate Award Recipient – Danielle Bentley
The CSCP congratulates Ms. Danielle Bentley, a doctoral candidate in the Department of Exercise Sciences, Faculty of Kinesiology and Physical Education, supervised by Dr. S. Thomas, University of Toronto, who was presented with the 2012-13 Lorne Phenix Graduate Award for her continued and sustained academic scientific excellence. Her research looks at the cardiovascular health of post-menopausal women, an at-risk population owing to the lost vascular protection of estrogens. Specifically, Danielle is trying to determine the most effective handgrip exercise protocol for reducing blood pressure in both the short-term (immediately following an exercise bout) and the long-term (following 4-6 weeks of handgrip training). This is new and exciting research which could help many women improve their cardiovascular health. At the moment, it is well known that aerobic exercise training can be used as an effective means of reducing one’s blood pressure. However, due to various limitations (physical, social, financial etc.) this form of exercise is not always accessible. Isometric handgrip training may provide an alternative exercise strategy for the non-pharmaceutical control of blood pressure.

Following the awards presentations, students socialized and networked during the complimentary lunch before attending the 'Lunch ‘n Learn' sessions and being treated to our esteemed invited guest speakers.

GUEST SPEAKERS

Dr. Lee Adamson is a Full Professor in the Department of Physiology with a cross-appointment in the Department of Obstetrics & Gynaecology. Dr. Adamson is the Head of the Research Centre for Women’s and Infants’ Health and the Director of the BioBank Program at the Samuel Lunenfeld Research Institute of Mount Sinai Hospital and the Director of the Mouse Physiology Core, Centre for Modeling Human Disease of Mount Sinai Hospital, Toronto Centre for Phenogenomics.

Dr. Adamson’s research interests are the influence of the placenta on fetal and maternal cardiovascular function during pregnancy and after birth. Specifically, abnormal placentation early in pregnancy is believed to cause the two most serious complications of human pregnancy, preeclampsia and fetal intrauterine growth restriction. These life-threatening conditions affect ~5% of all human pregnancies. In both disorders, the blood vessels in the placenta are abnormally formed and this is believed to contribute to the abnormal function of the placenta and the clinical signs of disease in the mother and her fetus. In her lab mice with mutations in genes believed to influence blood vessel growth in the placenta are being studied. They are performing physiological measurements in the mother, placenta, and fetus to determine the influence of aberrant placental development on pregnancy outcomes. Maternal and fetal cardiovascular function is monitored non-invasively using micro-ultrasound imaging and Doppler blood velocity measurements. Maternal and fetal blood vessels in the placenta are
imaged using micro-computed tomography, vascular corrosion casting, and histological techniques. They are seeking to discover the roles of specific genes expressed in the placenta in the etiology of preeclampsia and fetal intrauterine growth restriction using mice as animal models.

Dr. Peter Backx, DVM, PhD, is a Professor in the Departments of Physiology and Medicine, Senior Scientist in the Division of Cellular & Molecular Biology at the Toronto General Research Institute, Director of the Heart & Stroke/Richard Lewar Centre of Excellence Transgenic Physiology Lab and was recently elected to The Royal Society of Canada. Dr. Backx’s research interests focus in two main areas: the molecular structure of cardiac ion channels and the physiological role of cardiac ion channels in normal and diseased myocardium. The ultimate goal of these studies is to develop therapeutic agents to treat cardiovascular disease by targeting ion channels. Recent results in transgenic mice suggest that alterations in cardiac ion channel function can initiate and contribute to heart disease progression. In another set of studies they have developed a novel paradigm for the creation of tissue-specific agents for the modulation of ion channel function.

The CSCP thanks our guest speakers for the very insightful and interesting talks. Learning how interconnected their research paths were while at the same time so distinct. From veterinary training to impromptu faculty positions — learning about how both of these researchers got to where they are was exciting and intriguing!

SESSION PRESENTATION AWARD WINNERS
Each presenter was evaluated for best presentation and most innovative research by four members of the organizing committee. Criteria included content (quality of research, organization of presentation), visuals (clarity, readability), delivery (voice level, pacing) and overall impression. Certificates/gifts were presented to the winners by the Organizing Committee Co-Chair Danielle Bentley. Congratulations to awardees Nima Zamiri for “Most Innovative Research” and Bunty Singh for “Best Presentation” for their outstanding talks.
CLOSING

The Student Research Day was a success and would not have been possible without the combined efforts of several individuals. Thank you to the Organizing Committee (Insert L-R: Arash Ghashghai, Stephanie Beadman, Laura Banks (Co-Chair), Danielle Bentley (Co-Chair), Nour Qa’aty, Mehroz Ehsan) for all their hard work, Victoria Simpson for her support and knowledge in making this day successful, Professors Adamson and Backx for their outstanding and inspiring presentations, and the Sessions Chairs, Danielle Bentley, Arash Ghashghai and Laura Banks for keeping the sessions running smoothly.

Thank you to all the CSCP students and to all involved in making the 14th Annual CSCP Student Research Day a great success!

STUDENT FORUM

This event is an excellent opportunity for new students of the CSCP to meet one another and for senior students to catch up with old friends, and develop relationships with the up and comers. Discussions range from basic research, laboratory trials and triumphs, to future academic/career directions. Connections for research collaboration, as well as friendships are developed, and all those in attendance thoroughly enjoy the festive dinner and the change to meet other students. Due to a lack of funding we were unable to provide the CSCP student body with the 2012 CSCP Forum and Dinner. We hope to resume this event in 2013.

CARDIOVASCULAR SUMMER INITIATIVE (CSI)

The CSI program provides the graduate cardiovascular student community, as well as the undergraduate community, a more inclusive feel for the cardiovascular field. It gives them a broader frame of reference than just the lab experience and offers them chances to delve into areas they might not considered. The CSI program is a field trip experience where students are given the opportunity to go and learn more about various areas of cardiovascular research and potential alternative career paths. Field trips have included the MRI/CT Imaging Centre at St. Michael's Hospital, the Toronto Cardiac Rehabilitation outpatient centre, tour of an exercise physiology Lab, tour a pharmaceutical research division, tour a retinal blood flow lab, or a tour of the Surgical Skills Centre at Mt. Sinai Hospital, to name a few.
CIRCULATION ROUNDS
The CSCP student body organizes and runs this event which highlights the diverse nature of research carried out by our faculty. These academic rounds rotate through the various research sites at the University of Toronto and each event is hosted by a faculty member where their research focus is the topic of the day. The goal of this event is to provide graduate students, post-doctoral fellows, research associates, undergraduates and project/summer students with the chance to develop an appreciation of the vast range of excellent research being conducted in our widespread community. The students do a great job organizing these events and all seminars are well attended. For more detailed information regarding the presentations noted below, please go to the CSCP web site at www.cscp.utoronto.ca.

The first invited speaker was Dr. Michael Sefton, Michael E. Charles Professor in the Department of Chemical Engineering and Applied Chemistry and the Institute of Biomaterials and Biomedical Engineering, University of Toronto. This Circulation Round took place at the Donnelly Center at the University of Toronto on Wednesday, September 19th, 2012.

Dr. Sefton was educated at the University of Toronto (BASc, 1971) and at MIT (Sc.D., 1974) and has been at the University of Toronto since 1974. To commemorate the end of the 20th century, he was one of 20 given a Century of Achievement Award by the CSChE in 1999. He was Director of the Institute of Biomaterials and Biomedical Engineering at the University of Toronto from 1999-2005 and President of the US Society for Biomaterials in 2006. He received the Albright and Wilson Americas Award of CSChE in 1988. He was named University Professor in 2003 and elected a Fellow of the Royal Society of Canada in 2005. He has also received the Founders Award of the US Society for Biomaterials and the Killam Prize in Engineering of the Canada Council. Last year he received the Acta Biomaterialia Gold award.

Dr. Sefton’s academic history started in the field of chemical engineering focusing on blood compatible materials. Gradually He migrated towards the mechanism of biomaterial associated inflammation. His current research interests include the mechanisms of cell transplantation / drug delivery, biomaterials and tissue engineering. Dr. Sefton ultimate focus is to engineer novel materials with living cells to yield functional tissue equivalents.

His discussion that afternoon was “Vascularization of Tissue Constructs”. In Dr. Sefton’s presentation, he discussed the development of a new generation of materials or devices capable of inducing the formation of new blood vessels. Tissue Engineering is built upon the basic cell biology of these host cells and the variety of signals that control their behaviour; including extracellular matrix, growth factors and the immune/inflammatory system. He emphasized the development of novel vascularization methods and subsequently, the role of blood flow hemodynamics in new vessel perfusion. Current studies investigate in-vivo inflammatory responses to newly vascularized tissue types; including cardiac and pancreatic tissue. Following the discussion, Dr. Sefton took us on a tour of his advanced research facility.

Circulation Rounds on Friday, February 1, 2013 brought students to Dr. Howard Leong-Poi, the Head of the Division of Cardiology at St. Michael's Hospital, and an Associate Professor of Medicine at the University of Toronto. This event was held in the Keenan Research Centre at the Li Ka Shing Knowledge Institute.
Dr. Howard Leong-Poi obtained his M.D. at The University of Toronto in 1992, and completed his internal medicine and cardiology training at The University of Toronto in 1996 and 1999 respectively. He then undertook a 3-year research echocardiography fellowship under the supervision of Dr. Sanjiv Kaul at the University of Virginia, funded by The Canadian Institutes of Health Research and The Heart and Stroke Foundation of Canada. Dr. Leong-Poi returned to Canada in 2002 and he holds the Brazilian Ball Research Chair in Cardiology, and is a Clinician Scientist in the Keenan Research Centre at the Li Ka Shing Knowledge Institute.

His clinical interests includes echocardiographic imaging of ischemic and valvular heart disease, and his research, supported by the Canadian Institutes of Health Research, Heart and Stroke Foundation of Canada, Ministry of Research and Innovation and the Canadian Foundation for Innovation.

Dr. Leong-Poi’s topic for the afternoon was “Ultrasound-Mediated Gene and Progenitor Cell-Based Therapies for Cardiovascular Diseases.” He specializes in non-invasive cardiac imaging, in particular echocardiography, stress and contrast echocardiography. Dr. Leong-Poi presentation discussed the novel diagnostic and therapeutic applications for contrast ultrasound and targeted microbubbles, which employs contrast ultrasound, and ultrasound-targeted gene- and cell-based regenerative therapies for cardiovascular diseases and cancer therapeutics. His talk was followed by a tour of his lab and a live echo demonstration.

Dr. Steffen Sebastian Bolz’s lab hosted the third Circulation Rounds on March 28, 2013 at MSB 3154 and was very successful. The topic event was “TNF alpha, sphingosine-1-phosphate (S1P) and the cystic fibrosis transmembrane conductance regulator (CFTR) as central regulators of microvascular function in health and disease”. This included faculty members from the Department of Physiology, post docs, and graduate students. Many interesting questions were asked at the end of the event and it was a good learning experience for everyone. The research seminar was followed by a lab tour in which isolated arteries were viewed with microscope.

AWARDS

MEDTRONIC TRAVEL AWARD
Two competitions were held (spring and fall) for the Medtronic Travel Award. This award, established in 1995, helps to defray costs of travel for Program students presenting their research work at recognized scientific meetings. Students supported by this award this academic year were:

Fall 2011:
Danielle Bentley, PhD Candidate, Dept. of Exercise Sciences (Supervisor: Dr. S. Thomas)
Canadian Hypertension Congress, Toronto ON, October 2012
“Acute blood pressure response to isometric handgrip resistive exercise in post-menopausal women: A pilot study”
“Long-term physical activity adherence following cardiac rehabilitation: A multifactorial analysis”

Steve Wright, MSc Candidate, Dept. of Exercise Sciences (Supervisor: Dr. J. Goodman)
Canadian Society for Exercise Physiology, Regina SA, October 2012
“Altered atrial function improves ventricular diastolic filling following short-term endurance training”

Spring 2012:
Robert Lakin, PhD Candidate, Dept. of Exercise Sciences (Supervisor: Dr. J. Goodman)
Experimental Biology, Boston MA, April 2013
“Post-exertional blood pressure response following swim exercise is dependent on training status”

Uswa Shahzad, MSc Candidate, Institute of Medical Science (Supervisor: Dr. T. Yau)
International Society for Heart & Lung Transplantation Annual Meeting, Montreal QE, April 2013
“Transmyocardial revascularization enhances mesenchymal stem cell engraftment in infarcted hearts through SCF-c-kit and SDF-1-CXCR4 signaling axes”

Jake Cosme, MSc Candidate, Dept. of Physiology (Supervisor: Dr. A. Gramolini)
International Society for Heart Research XXI World Congress, San Diego CA, July 2013
“Discovery proteomics strategy identifies hypoxia-induced changes in the cardiac fibroblast exosome”

BIGELOW BOOK PRIZE
This prize was established in 1995 by the Cardiovascular Sciences Collaborative Program to recognize and honor a pioneer clinician and scientist in the field of cardiovascular sciences. Awardees should exemplify the personal traits of Dr. Bigelow - curiosity, drive, and scientific integrity. The award is given in every year that a qualified student is identified. Qualifications include sustained academic scientific excellence, innovative experimental approaches, original discoveries and good scientific productivity. Some weight is given to work that has recognizable clinical relevance, especially that which promises to improve patient care. The Bigelow Book Prize consists of 2 books written by Dr. W.G. Bigelow entitled “Cold Hearts” and “Mysterious Heparin” and a keeper plaque created to honor Dr. Bigelow. Appropriate candidates are identified and the final decision is made by the Program Committee.

1997 – Vivek Rao  2007 – Patricia Rose
1998 – Bryce Cowan  2008 – Mitesh Badiwala
1999 – Gideon Cohen  2009 – Jane Maclver
2000 – Michael Borger  2010 – Carlo Cifelli
2002 – Wm. Jack Wallan  2012 – Laura Banks
2003 – Paul W.M. Fedak  2013 – Katherine Allan
2004 – Nathalie Lapointe

The CSCP congratulates Ms. Katherine Allan, a doctoral candidate in the Institute of Medical Science, supervised by Dr. P. Dorian, St. Michael’s Hospital, who was presented with the 2013 Bigelow Book Prize for her continued and sustained academic scientific excellence. The sudden stoppage of a young person’s heart (“heart arrest”) is very upsetting for the
victim’s family, friends, and community. In the majority of cases, the heart stops pumping when it goes into a dangerous rhythm and in almost all cases, the young people die. Recent reviews have highlighted our lack of information on how many young people die every year, including the cause of why their heart suddenly stopped and if the cause is due to something in their genes. We want to understand why certain young people’s hearts suddenly stop functioning, in order to see what can be done to prevent these events from happening in the first place. We think that by figuring out how many young people die suddenly each year in the Greater Toronto Area as well as why their hearts suddenly stopped might help prevent events in family members at risk.

**LORNE PHENIX GRADUATE AWARD**

This award was made possible by a generous donation in the memory of Mr. Lorne Phenix by Mrs. Geraldine Phenix. It is her hope that this award will focus attention on the issue of heart disease – which is still the #1 killer of both men and women in Canada. In addition, women who have heart problems are at least equal if not at greater risk than men and Mrs. Phenix hopes that this award will serve to encourage trainees to pursue this area of research to address this particular problem. It is awarded to a graduate student in the Faculty of Medicine on the basis of research and academic excellence. The award consists of a cash prize and certificate and is presented to the recipient at the Annual Student Research Day. Appropriate candidates are identified and a winner is selected by the Awards Subcommittee. The award is given in every year that a qualified student is identified and presented at the Annual Student Research Day.

- 2001 – Wm. Jack Wallen
- 2002 – Wm. Jack Wallen
- 2003 – Shathiyah Kulandavelu
- 2004 – Rachel Mitchell
- 2005 – Nesime Askin
- 2006 – Danny Quaglietta
- 2007 – Emma O’Donnell
- 2008 – Luke Tan
- 2009 – Amir Manbachi
- 2010 – Shazareen Khan
- 2012 – Danielle Bentley

The CSCP congratulates Ms. Danielle Bentley, a doctoral candidate in the Dept. of Exercise Sciences, Faculty of Kinesiology and Physical Education, supervised by Dr. S. Thomas, who was presented with the 2012-13 Lorne Phenix Graduate Award for her continued and sustained academic scientific excellence. Her research looks at the cardiovascular health of post-menopausal women, an at-risk population owing to the lost vascular protection of estrogens. Specifically, Danielle is trying to determine the most effective handgrip exercise protocol for reducing blood pressure in both the short-term (immediately following an exercise bout) and the long-term (following 4-6 weeks of handgrip training). This is new and exciting research which could help many women improve their cardiovascular health. At the moment, it is well known that aerobic exercise training can be used as an effective means of reducing one’s blood pressure. However, due to various limitations (physical, social, financial etc.) this form of exercise is not always accessible. Isometric handgrip training may provide an alternative exercise strategy for the non-pharmaceutical control of blood pressure.
FINANCIAL SUPPORT

ONTARIO STUDENT OPPORTUNITY TRUST FUNDS (OSOTF) AWARD
The OSOTF award refers to a class of awards that have resulted from the Ontario government’s “matching” program. Under the program every dollar of donation received for student assistance has been matched by the government as well as the university on a dollar-for-dollar basis. There are two major conditions for all OSOTF awards; recipients must be Ontario residents and demonstrate financial need. However, the CSCP has additional eligibility criteria that must be adhered to, including excellence in science and academic performance. One competition is held per academic year. The applications are handled centrally through the Office of the Associate Dean, Inter-Faculty and Graduate Affairs. Applications pertaining to the CSCP are sent to us and are then adjudicated by a subcommittee chaired by Dr. Margaret Rand. Committee recommendations are then forwarded to the OSOTF Awards Committee (Faculty of Medicine). The following student received funding for the 2012-2013 year:

Danielle Bentley, PhD Candidate, Dept. of Exercise Sciences (Supervisor: Dr. S. Thomas)
Arash Ghashghai, PhD Candidate, Institute of Medical Science (Supervisor: Dr. V. Rao)
Lee-Anne Khuu, PhD Candidate, Institute of Medical Science (Supervisor: Dr. C. Hudson)
Uswa Shahzad, MSc Candidate, Institute of Medical Science (Supervisor: Dr. T. Yau)

QEII – GSST (GRADUATE SCHOOL SCIENCE & TECHNOLOGY)
The QEII program is designed to encourage excellence in graduate studies in science and technology. The program is supported through funds provided by the Ministry of Training, Colleges and Universities and by funds raised by the University of Toronto and the Heart & Stroke Foundation of Ontario. To be awarded to graduate students at the University of Toronto who are pursuing cardiovascular/stroke research. Students must have maintained an overall A-average over the last two years of study at the post-secondary level and exhibit research ability/potential, good communication skills and interpersonal/leadership abilities. The following students were ranked and offered an award:

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Dept.</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Kroetsch</td>
<td>PhD</td>
<td>PSL</td>
<td>S-S. Bolz</td>
</tr>
<tr>
<td>A. Jain</td>
<td>MSc</td>
<td>PSL</td>
<td>R. Jankov</td>
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<tr>
<td>O. Pucci</td>
<td>PhD</td>
<td>IMS</td>
<td>J. Fisher</td>
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<tr>
<td>W. Fung</td>
<td>PhD</td>
<td>BME</td>
<td>M. Bendekc</td>
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<tr>
<td>H. Cheng</td>
<td>PhD</td>
<td>LMP</td>
<td>J. Fish</td>
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<tr>
<td>P. Turgeon</td>
<td>PhD</td>
<td>LMP</td>
<td>P. Marsden</td>
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<tr>
<td>S. El-Rass</td>
<td>MSc</td>
<td>IMS</td>
<td>X-Y. Wen</td>
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<tr>
<td>C. Santiago</td>
<td>MSc</td>
<td>PCL</td>
<td>K. Lancot</td>
</tr>
<tr>
<td>A. Korogyi</td>
<td>MSc</td>
<td>PSL</td>
<td>P. Backx</td>
</tr>
</tbody>
</table>

ADVERTISING MATERIAL
The CSCP maintains and updates its web site (www.cscp.utoronto.ca). Faculty information is updated whenever we are notified of relevant changes. Collaborating departments are encouraged to provide hypertext links to the CSCP on their web site.
ACKNOWLEDGEMENTS

The Cardiovascular Sciences Collaborative Program would like to thank the following sponsors for their generous support: Medtronic Canada, the Heart and Stroke/Richard Lewar Centre of Excellence and the Faculty of Medicine.
<table>
<thead>
<tr>
<th>Name</th>
<th>Supervisor</th>
<th>Degree</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cynthia Abbasi</td>
<td>A. Gramolini</td>
<td>MSc</td>
<td>PSL</td>
</tr>
<tr>
<td>Alanna Adleman</td>
<td>C. Hudson</td>
<td>MSc</td>
<td>IMS</td>
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<tr>
<td>Katherine Allan</td>
<td>P. Dorian</td>
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<td>Hajera Amatullah</td>
<td>H. Zhang</td>
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<tr>
<td>Nesime Askin</td>
<td>C. Wittnich</td>
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<td>Mitesh Badiwala</td>
<td>V. Rao</td>
<td>PhD</td>
<td>IMS</td>
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<tr>
<td>Laura Banks</td>
<td>B. McCrindle</td>
<td>PhD</td>
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<tr>
<td>Stephanie Beadman</td>
<td>S. Heximer</td>
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<tr>
<td>Danielle Bentley</td>
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<td>Mark Blaser</td>
<td>C. Simmons</td>
<td>PhD</td>
<td>BME</td>
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<td>Antoinette Bugyei-Twum</td>
<td>K. Connelly</td>
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<td>Hao Chen</td>
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<td>Richard Cheng</td>
<td>C. Hudson</td>
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<tr>
<td>Jake Cosme</td>
<td>A. Gramolini</td>
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<td>Alex Di Battista</td>
<td>A. Gramolini</td>
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<td>Mehroz Ehsan</td>
<td>S. Verma</td>
<td>MSc</td>
<td>IMS</td>
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<td>Suzan El-Rass</td>
<td>X-Y. Wen</td>
<td>MSc</td>
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<tr>
<td>Sam Esfandiari</td>
<td>J. Goodman</td>
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<td>M. Sadegh Farahvash</td>
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<td>Carlos Fernando</td>
<td>G. Moe</td>
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<td>Richard Gao</td>
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<td>Arash Ghashghai</td>
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<td>Gabriela Ghisi</td>
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<td>Zachary Goodman</td>
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<tr>
<td>Taylor Gray</td>
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<td>June (Hui Jun) Guo</td>
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<td>Tina Hu</td>
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<td>Amish Jain*</td>
<td>R. Jankov</td>
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<td>Jemy Joseph</td>
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<td>David Kepecs</td>
<td>R. Gilbert</td>
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<td>Lee-Anne Khuu</td>
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<td>Robert Lakin</td>
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<td>Elena Leontieva</td>
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<td>Zhen Lu</td>
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<td>Timothy Mak</td>
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<td>Farrokh Mansouri</td>
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<td>BME</td>
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<td>X-Y. Wen</td>
<td>MSc</td>
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<td>Adam McKillop</td>
<td>B. McCrindle</td>
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<tr>
<td>Azadeh Mofid*</td>
<td>H. Leong-Poi</td>
<td>PhD</td>
<td>IMS</td>
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<tr>
<td>Amelia Mociornita</td>
<td>V. Rao</td>
<td>MSc</td>
<td>IMS</td>
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</tbody>
</table>
Mark Moon   P. Liu    PhD  IMS
Emma O’Donnell   J. Goodman   PhD  EXS
Omodele Olowoyeye   A. Moody   PhD  IMS
Maral Ouzounian   P. Liu    PhD  IMS
Nour Qa’aty   A. Hinek   MSc  IMS
Azza Ramadan   S. Verma   PhD  IMS
Iran Rashedi   A. Keating   PhD  BME
Sagar Rohaila   C. Caldarone   MSc  IMS
Patricia Rose   C. Hudson   PhD  IMS \textit{(inactive status)}
Ethan Ruderman   G. Wells   MSc  EXS
Shira Sasson   J. Parker   MSc  PCL
Eric Shikatani   M. Husain   PhD  LMP
Bunty Singh   R-K. Li   PhD  LMP
Navneet Singh   A. Moody   PhD  IMS
Renee Suen   D. Stewart   PhD  IMS \textit{(inactive status)}
Luke Tan   C. Wittnich   MSc  PSL
Megan Thompson   S. Mital   MSc  IMS
Steve Wright   J. Goodman   MSc  EXS
Hanpo Yu   H. Zhang   MSc  PSL
Siming (Phil) Xue   R-K. Li   MSc  IMS
Nima Zamiri   K. Nanthakumar   MSc  IMS
Kangbin Zhou   J. Parker   PhD  PCL
Lily Zou   P. Dorian   MSc  PCL

* Students registered during the year at MSc and PhD training levels.

**CONVOCATED STUDENTS/FOLLOW-UP**

Sam Esfandiari, MSc, Department of Exercise Sciences (Supervisor: Dr. J. Goodman): “Short-Term High-Intensity Interval Training and Continuous Moderate-Intensity Training Improve Peak Aerobic Capacity and Diastolic Filling During Exercise” \textit{(PhD, Institute of Medical Science, University of Toronto)}

Tina Hu, MSc, Institute of Medical Science (Supervisor: Dr. G. Hare): “The Role of Beta-Adrenergic Receptors in Mediating Cerebral Perfusion During Acute Hemodilution” \textit{(Medicine and Research)}

Jemy Joseph, MSc, Institute of Medical Science (Supervisor: Dr. V. Rao): “Does Human Leukocyte Antigen-G (HLA-G) Play a Role in Immune Modulation and Vasculopathy in Heart Transplantation?” \textit{(Medicine – University of Ottawa)}

Paul Lee, MSc, Institute of Medical Science (Supervisor: Dr. H. Leong-Poi): “Survivin Gene Therapy Using Ultrasound-Targeted Microbubble Destruction in a Rat Model of Doxorubicin-Induced Cardiomyopathy” \textit{(Undecided)}

Jane MacIver, PhD, Institute of Medical Science (Supervisor: Dr. V. Rao): “Deciding About Heart Transplantation or Mechanical Support: An Empirical Study and Ethical Analysis” \textit{(Clinician Scientist, UHN)}
Amelia Mociornita, MSc, Institute of Medical Science (Supervisor: Dr. V. Rao): “The Role of Human Leukocyte Antigen-G in Cardiac Allograft Vasculopathy” (Pharmaceutical Industry/PhD)

Maral Ouzounian, PhD, Institute of Medical Science (Supervisor: Dr. P. Liu): “Gene Expression Changes in Rats with Diastolic Dysfunction Induced by Diabetes and Hypertension and Humans with Diastolic Heat Failure” (Surgeon-Scientist, UHN)

Sagar Rohailla, MSc, Department of Exercise Sciences (Supervisor: Dr. M. Locke): “A Langendorff-Perfused Mouse Heart Model for Delayed Remote Limb Ischemic Preconditioning Studies” (Medical School, University of Toronto, MD/PhD Program)

Luke Tan, MSc, Department of Physiology (Supervisor: Dr. C. Wittnich): “A Newborn Sex-Related Response to Hyperoxia” (Medicine)

AWARDS AND HONORS

<table>
<thead>
<tr>
<th>NAME</th>
<th>HONORS AND AWARDS</th>
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<tbody>
<tr>
<td>Katherine Allan</td>
<td>- Bigelow Book Prize, CSCP, UofT 2013</td>
</tr>
<tr>
<td></td>
<td>- SGS Conference Grant, 2012</td>
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<td></td>
<td>- CIHR Doctoral Award – Frederick Banting and Charles Best Canada Graduate Scholarship, 2011-2014</td>
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<td>- Heart &amp; Stroke Jump Start Resuscitation Doctoral Research Award, 2011-2014 (declined)</td>
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<tr>
<td>Laura Banks</td>
<td>- CIHR New Investigator Bridge Funding (Operating Grant): Early identification of Cardiac Dysfunction in Obese Adolescents: mechanisms &amp; Modulation. $100,000 (Co-Investigator: Dr. Wells (PI))</td>
</tr>
<tr>
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<td>- Labatt Family Heart Centre Innovation Fund: Mechanisms of dysfunction and the influence of exercise on cardiac and skeletal muscle metabolism in children after the Fontan Procedure. $47,600 (Dr. McCrindle (PI))</td>
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<tr>
<td></td>
<td>- Labatt Family Heart Centre Innovation Fund: Pathophysiological mechanisms of cardiac dysfunction in obese adolescents. Pilot study. $24,000 (Co-Investigator: Dr. McCrindle (PI))</td>
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<tr>
<td>Mark Blaser</td>
<td>- CIHR Doctoral Award – Frederick Banting and Charles Best Canada Graduate Scholarship, 2011-2014</td>
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<tr>
<td>Henry Cheng</td>
<td>- Runner-up Poster Competition, HSRLCE, 2013</td>
</tr>
<tr>
<td></td>
<td>- SGS Conference Grant Award, UofT, 2013</td>
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<tr>
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<td>- QEII/GSST HSFO, 2012-2013</td>
</tr>
<tr>
<td>Jake Cosme</td>
<td>- Medtronic Travel Award, CSCP, 2013</td>
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<td>- SGS Conference Grant Award, UofT, 2012</td>
</tr>
<tr>
<td>Mehroz Ehsan</td>
<td>- UofT Fellowship/Entrance Award, 2012</td>
</tr>
<tr>
<td>Suzan El-Rass</td>
<td>- 1st place, Second Annual Biomedical Engineering &amp; Sciences Technology poster presentation 2013</td>
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<td>- QEII/GSST HSFO, 2012-2013</td>
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<td>- LKSKI Scholarship, St. Michael’s Hospital, 2012-2013</td>
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<td>- SGS Conference Grant Award, UofT, 2012</td>
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<td>Sam Esfandiari</td>
<td>- IMS Entrance Award, 2012</td>
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<tr>
<td>Arash Ghashghai</td>
<td>- Dr. Jesse Keshin Graduate Student Award, UofT, 2012</td>
</tr>
<tr>
<td>Name</td>
<td>Awards and Achievements</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Gabriela de Melo Ghisi</td>
<td>- OSOTF, CSCP, UofT, 2012&lt;br&gt;- Dr. Roy Shephard QEI/GSST, UofT, 2012&lt;br&gt;- Graduate Scholarship Award, Cardiac Health Foundation Ontario, 2012</td>
</tr>
<tr>
<td>June Guo</td>
<td>- Canadian Diabetes Assoc. Doctoral Student Research Award, 2010-2013</td>
</tr>
<tr>
<td>Lee-Anne Khuu</td>
<td>- Doctorate Fellowship, Vision Science Research Program Award, UofT 2012&lt;br&gt;- Ontario Graduate Scholarship, 2012&lt;br&gt;- OSOTF, CSCP, UofT, 2012</td>
</tr>
<tr>
<td>Jeffrey Kroetsch</td>
<td>- QEI/GSST, HSFO, UofT, 2012&lt;br&gt;- OSOTF, CSCP, UofT, 2012&lt;br&gt;- IMS Entrance Award, UofT, 2013</td>
</tr>
<tr>
<td>Susith Kulasekara</td>
<td>- Vision Science Research Program (VSRP) Scholarship, TWRI, Dept of Ophthalmology, UofT, 2012-2013</td>
</tr>
<tr>
<td>Zhen Lu</td>
<td>- QEI/GSST, HSFO, UofT, 2012-2013&lt;br&gt;- Graduate Stimulus Package, Dept. of Physiology, UofT, 2012</td>
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<tr>
<td>Timothy Mak</td>
<td>- OSOTF Dr. Alan W. Conn Graduate Award, 2012&lt;br&gt;- UHN Medical Staff Assoc. Volunteer Educational Award, 2012</td>
</tr>
<tr>
<td>Azadeh Mofid</td>
<td>- SGS Conference Grand Award, 2012&lt;br&gt;- SGS Travel Grant, UofT, 2013</td>
</tr>
<tr>
<td>Azza Ramadan</td>
<td>- IMS Entrance Award, UofT, 2013&lt;br&gt;- Fellowship Scholarship, UofT, 2012-2013</td>
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<tr>
<td>Shira Sasson</td>
<td>- Fellowship Scholarship, UofT, 2012-2013&lt;br&gt;- Medtronic Travel Award, CSCP, UofT, 2013&lt;br&gt;- Lorne Phenix Graduate Award, CSCP, UofT, 2012-2013</td>
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<tr>
<td>Uswa Shahzad</td>
<td>- SGS Travel Grant, UofT, 2013&lt;br&gt;- Medtronic Travel Award, CSCP, UofT, 2013&lt;br&gt;- Lorne Phenix Graduate Award, CSCP, UofT, 2012-2013</td>
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<tr>
<td>Eric Shikatani</td>
<td>- 1st Place, 16th Annual Graduate Student Research Day, Poster Competition, LMP, UofT, 2013</td>
</tr>
<tr>
<td>Kaustabh (Bunty) Singh</td>
<td>- Best Presentation Award, 14th Student Research Day, CSCP, 2013&lt;br&gt;- Ontario Graduate Scholarship, UofT, 2012-2013</td>
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<td>Navneet Singh</td>
<td>- SGS Travel Award, UofT, 2012&lt;br&gt;- Certificate of Merit Award, Educational Exhibit, Radiology Society of</td>
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<tr>
<td><strong>North America, 2012</strong></td>
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<td>-------------------------</td>
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<tr>
<td>- Honorable Mention, Original Research, North American Society of Cardiovascular Imaging, 2012</td>
<td></td>
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<tr>
<td>- CIHR Fellowship. Clinical Trial in Vascular Atherosclerosis and Biology imaging: Prospective evaluation of the ability of magnetic resonance imaging detected carotid intraplaque hemorrhage to predict individuals with high cardiovascular risk phenotype. $220,000, 2012-2016</td>
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<tr>
<td>- Research Resident Grant, RSNA R&amp;E Foundation; Ability of routine clinical high resolution 3-Tesla MR imaging of carotid intraplaque hemorrhage to identify vulnerable cardiovascular and cerebrovascular patients (retrospective), $30,000, 2012-2013</td>
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<tr>
<td>- Resident Research Grant – PSI. Ability of routine clinical high resolution 3-Tesla MR imaging of carotid intraplaque hemorrhage to identify vulnerable cardiovascular and cerebrovascular patients (retrospective), $20,000, 2012-2013</td>
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<td>- Dept of Medical Imaging Grant, UofT. MRI physicist salary support. $300,000, 2011-2014</td>
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**Stephen Wright** - IMS Entrance Award, UofT, 2013

**Nima Zamiri** - Young Investigator Award Competition Finalist (Honourable Mention), Heart rhythm society Annual Conference 2013
- SGS Conference Grant, UofT, 2012
- IMS Fellowship Award, UofT, 2012

**Kangbin Zhou** - Connaught International Scholarship, 2012 - Present

### PUBLICATIONS


**Brooks NC, Marshall AH, Qa’aty N, Hiyama Y, Boehning D, Jeschke M:** XBP-1s is linked to suppressed gluconeogenesis in the post burn ebb phase. Molecular Med, 2013. [Epub]


Redington KL, Disenhouse T, Li J, Wei C, Dai X, Gladstone R, Manlhiot C, Redington AN: Electroacupuncture reduces myocardial infarct size and improves post-ischemic recovery by
involving release of humoral, dialyzable, cardioprotective factors. J Physiological Sci. [Epub 2013-03-26]


Wong RD, Chahal N, Manlhiot C, Niedra E, McCrindle BW: Flaxseed in pediatric hyperlipidemia: A placebo-controlled, blinded, randomized clinical trial of dietary flaxseed
supplementation for children and adolescents with hypercholesterolemia. JAMA Pediatr, 2013 [Epub 2013-06-03]

## FACULTY

Faculty are divided into 3 categories (Full, Associate, Affiliate). Details on faculty research interests, and contact information are available on the CSCP web site. Departmental affiliations listed below are those within the CSCP. For annual information on faculty peer-reviewed funding and publications, please refer to their home department’s annual reports.

<table>
<thead>
<tr>
<th>Name</th>
<th>Departmental Affiliation(s)</th>
<th>Location</th>
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<tr>
<td>Lee Adamson</td>
<td>BME/IMS/PSL</td>
<td>Mount Sinai Hospital</td>
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<tr>
<td>Khosrow Adeli</td>
<td>LMP</td>
<td>Hospital for Sick Children</td>
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<tr>
<td>Peter Backx</td>
<td>Medicine/PSL</td>
<td>UofT – FitzGerald Bldg.</td>
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<tr>
<td>Jaques Belik</td>
<td>IMS/PSL</td>
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<tr>
<td>Michelle Bendek</td>
<td>LMP/Medicine</td>
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<tr>
<td>Sandra Black</td>
<td>IMS</td>
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<td>Steffen-Sebastian Bolz</td>
<td>PSL</td>
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<tr>
<td>Douglas Bradley</td>
<td>IMS/Medicine</td>
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<tr>
<td>Dina Brooks</td>
<td>REH</td>
<td>UofT – Rehabilitation Sci</td>
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<tr>
<td>John Coles</td>
<td>IMS/Surgery</td>
<td>Hospital for Sick Children</td>
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<tr>
<td>Philip Connelly</td>
<td>LMP/Medicine</td>
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<td>David Courtman</td>
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<td>Joel Fisher</td>
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<td>John Flanagan</td>
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<tr>
<td>Stephen Fremes</td>
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<tr>
<td>Adria Giacca</td>
<td>PSL</td>
<td>UofT - MSB</td>
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<tr>
<td>Jack M. Goodman</td>
<td>EXS</td>
<td>UofT - Physical Ed &amp; Health</td>
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<tr>
<td>Len S. Goodman</td>
<td>EXS</td>
<td>Def &amp; Civil Inst Environ Med</td>
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<td>Avrum I. Gottlieb</td>
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<td>Anthony Gramolini</td>
<td>PSL</td>
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<tr>
<td>Gil Gross</td>
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<td>David Hampson</td>
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<td>UofT – Pharmacy</td>
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<td>Gregory Hare</td>
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<td>Scott Heximer</td>
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<td>Aleksander Hinek</td>
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<td>Margaret Hough</td>
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<td>Chris Hudson</td>
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<td>William Hutchison</td>
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<tr>
<td>Robert Jankov</td>
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<tr>
<td>K. Wayne Johnston</td>
<td>BME/IMS/Surgery</td>
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<td>Peter G. Kalman</td>
<td>IMS/Surgery</td>
<td>Community</td>
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<tr>
<td>Armand Keating</td>
<td>IMS/BME</td>
<td>Princess Margaret Hospital</td>
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<tr>
<td>Howard Leong-Poi</td>
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<td>St. Michael’s Hospital</td>
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<tr>
<td>Michelle Letarte</td>
<td>MBP</td>
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<tr>
<td>Gary F. Lewis</td>
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<tr>
<td>Ren-Ke Li</td>
<td>IMS/LMP/Surgery</td>
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<tr>
<td>Tom Lindsay</td>
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<tr>
<td>Mingyao Liu</td>
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<td>MaRS, Toronto General</td>
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Flavio Coceani (adjunct Professor – currently in Italy)    Sunnybrook Health Centre
Gideon Cohen    Surgery

Faculty publications for the 2010-2011 academic year can be found through their departmental websites.