

Presented by the McMaster
Women in Science and Engineering Initiative



March 6th – 7th, 2015, McMaster University
Celebrating International Women's Day

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Acknowledgements

WISE is deeply indebted to all of our McMaster University sponsors for their continued support in helping us achieve our goals. Without this support, none of our activities would be possible.

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We would also like to thank the many conference judges, workshop presenters, and volunteers for their time, effort, and support.



Welcome Statement

Welcome to the Current Research in Engineering, Science, & Technology (CREST) 2015 Annual Meeting! CREST is a multi-disciplinary research conference hosted by the McMaster Women in Science and Engineering (WISE) Initiative. We hope you will find our 9th annual conference educational, stimulating, and inspiring!

We are very lucky to have Dr. Molly Shoichet as our keynote speaker for this year. Dr. Shoichet is an internationally recognized scientist at the University of Toronto, where her cross-disciplinary research focuses on polymers for use in drug delivery and regeneration.

We are also lucky to have four panelists working in non-traditional academic careers (Dr. Rosa da Silva, Dr. Catherine Maybrey, Dr. Nancy McKenzie, and Dr. Sandra Monteiro), as well as five panelists who work outside academia (Dr. Samaneh Alibeigi, Joanne Bailey, Dr. Catherine Cottrell, Natalia Lecki, and Elizabeth Rowan) participating in CREST this year. Our panelists will be discussing their transitions from grad school to the positions they are in today.

On Friday morning, we will hold a financial workshop, entitled 'Long-term Financial Planning for Graduate Students'. Presented by Mika Forrester, an experienced financial planner from Primerica, this workshop will help you learn how to make the most of the funding you receive today and in the future. In the afternoon, we will open up the floor for a discussion about specific issues related to STEM and Gender. The debate will be led by Erin Crickett, a former STEM student who now serves as the Public Education Coordinator for the Sexual Assault Centre for Hamilton (SACHA). This year, \$5 from each CREST registration will be donated to SACHA to support their work towards ending violence in the Hamilton community. More information about SACHA and their initiatives can be found on pages 17-18.

The greatest part of CREST, as always, is the student participation. There will be approximately thirty research talks taking place throughout CREST. The top oral presentations will be awarded a gift certificate to Titles. For further details regarding research talk sessions, please refer to pages 14-16.

Finally, you will notice several female scientists on the cover of our proceedings. Short biographies of these amazing women can be found on pages 19-21.

We hope you enjoy CREST 2015!

Your 2014-2015 WISE Initiative Organizational Committee:

Carla Brown, Roopali Chaudhary, Kristine Hammill, Laura Hogg, Adriana Nori de Macedo, Stacy Muise, Sindy Murali, Molly Pottruff, Talena Rambarran, Sangeena Salam, Michelle Saoi, Lana Shaya, Carolina Weisham, Mai Yamamoto, Natalie D'Silva

WISE Mentors

Name	Department
Dr. Sigal Balshine	Psychology, Neuroscience, & Behaviour
Dr. Suzanna Becker	Psychology, Neuroscience, & Behaviour
Dr. Robin Cameron	Biology
Dr. Rosa da Silva	Biology
Dr. Juliet Daniel	Biology
Dr. Kim Dej	Biology
Dr. Sarah Dickson	Civil Engineering
Dr. Marie Elliot	Biology
Dr. Carolyn Eyles	Geography & Earth Sciences
Dr. Cecile Fradin	Physics & Astronomy
Dr. Deda C Gillespie	Psychology, Neuroscience, & Behaviour
Dr. Gillian Goward	Chemistry & Chemical Biology
Dr. Katheryn Grandfield	Materials Science & Engineering
Dr. Deirdre Haskell	Mathematics & Statistics
Dr. Kim Jones	Chemical Engineering
Dr. Lovaye Kajiura	Biology
Dr. Gail Krantzberg	Civil Engineering
Dr. Aimee Nelson	Kinesiology
Dr. Laura Parker	Physics & Astronomy
Dr. Cheryl E. Quenneville	Mechanical Engineering
Dr. Mel Rutherford	Psychology, Neuroscience & Behaviour
Dr. Kalai Saravanamuttu	Chemistry and Chemical Biology
Dr. Allison Sekuler	Psychology, Neuroscience, & Behaviour
Dr. Heather Sheardown	Chemical Engineering
Dr. Alison Sills	Physics & Astronomy
Dr. Sarah Symons	Physics & Astronomy
Dr. Valerie Taylor	Psychiatry and Behavioural Neuroscience
Dr. Ayse Turak	Engineering Physics
Dr. Elizabeth Weretilnyk	Biology
Dr. Christine Wilson	Physics & Astronomy
Dr. Xu-Dong Zhu	Biology

About the McMaster WISE Initiative

The McMaster Women in Science and Engineering (WISE) Initiative was formed in 2006 as a result of a survey conducted at McMaster University. This survey revealed a need for a forum in which female graduate students could identify, discuss, and learn about gender-related issues specific to their field of work and study.

Under the initial leadership of ten female graduate students from various science and engineering departments at McMaster University, WISE began offering bi-weekly science talks featuring women in science and engineering, as well as a round table conference.

WISE now hosts monthly social and professional development workshops open to all students on campus. These have included organizing nuclear reactor tours, co-hosting the 2014 Whidden Lecture, hosting social gatherings, and organizing 'TED Talk & Movie Nights' featuring thought-provoking talks, films, and documentaries. WISE also facilitates a mentorship program, 'Mentor of the Month' where each month a faculty member mentor leads a discussion on topics ranging from how to find a balance between life and the lab to the importance of saying 'yes' to new opportunities to developing a solid support network. If you are interested in talking to someone who has made it to the other end of the academic gauntlet, we highly encourage you to contact one of our WISE Mentors, their contact information can be found on page 4.

Finally, WISE organizes our annual multidisciplinary meeting (CREST) to highlight and celebrate the exciting research conducted by students, post-docs, and faculty in sciences and engineering. The meeting gathers approximately 100 participants annually and features research presentations, workshops, panel discussions, and keynote addresses by leading female executives and scientists. Conference workshops focus on a range of topics, including: grant-writing tips, effective negotiating, finding jobs both in and outside of academia, and imposter syndrome.

WISE is run by a group of graduate students from various departments at McMaster University. We welcome anyone to get involved with our group.

Everyone—undergraduate and graduate students, post-docs, faculty, female and male—is welcome.

For more information about WISE, and regular updates about our monthly events, visit our website at <http://www.science.mcmaster.ca/wise/>. To send us your comments, questions, and ideas, email us at wiseinitiative@gmail.com.

Schedule Overview

Friday, March 6th

9:00am – 10:00am	Registration Open Coffee provided	CH
	Welcome and Opening Remarks by the WISE Initiative Steering Committee	CH
10:00am – 11:00am	Long-term Financial Planning for Graduate Students Mika Forrester	CH
11:00am – 11:30am	Networking and Coffee Break	CH
11:30am – 12:30pm	STEM and Gender Open-Forum Discussion Moderator: Erin Crickett from the Sexual Assault Centre Hamilton Area (SACHA)	CH
12:30pm – 1:30pm	Lunch	CH
1:30pm – 2:45pm	Panel Discussion: Non-Traditional Academic Careers Dr. Rosa da Silva Dr. Catherine Maybrey Dr. Nancy McKenzie Dr. Sandra Monteiro	CH
2:45pm – 3:00pm	Networking and Coffee Break	CH
3:00pm – 4:00pm	Academic Keynote Address Dr. Molly Shoichet Women in Science: Opportunities and Strategies for Success	CH
4:00pm – 5:30pm	Wine and Cheese Reception	CH

*CH: Celebration Hall, lower level of Kenneth Taylor Hall
(Maps on pages 22-23)*

Saturday, March 7th

9:00am – 10:00am	Registration Open Coffee provided	PC 205
10:00am – 11:00am	Oral Research Presentations Session 1	PC 237
	Session 2	PC 335
11:00am – 11:30am	Networking and Coffee Break	PC 205
11:30am – 12:30pm	Oral Research Presentations Session 3	PC 237
	Session 4	PC 335
<i>--- Walk to the Phoenix Bar and Grill ---</i>		
12:30pm – 2:00pm	Lunch	Phoenix
<i>--- Walk to the Psychology Building ---</i>		
2:00pm – 3:15pm	Oral Research Presentations Session 5	PC 237
	Session 6	PC 335
3:15pm – 3:45pm	Networking and Coffee Break	PC 205
3:45pm – 5:00pm	Panel Discussion: Making the Move to Industry Dr. Samaneh Alibeigi Joanne Bailey Dr. Catherine Cottrell Natalia Lecki Elizabeth Rowan	PC 237
5:00pm – 6:00pm	Award Ceremony & Closing Remarks Wine and Cheese Reception	PC 205

PC: Psychology Building
(Maps on pages 22-23)

CREST 2015 Keynote Speaker

Molly Shoichet, Ph.D.

University Professor, Chemical Engineering & Applied Chemistry, Chemistry and Biomaterials & Biomedical Engineering
University of Toronto



Professor Molly Shoichet holds the Tier I Canada Research Chair in Tissue Engineering at the University of Toronto. She has published over 480 papers, patents and abstracts and has given over 310 lectures worldwide. She currently leads a laboratory of 25 and has graduated 134 researchers. She founded two spin-off companies, is actively engaged in translational research and science outreach. Dr. Shoichet is the recipient of many prestigious distinctions and the only person to be a Fellow of Canada's 3

National Academies: Canadian Academy of Sciences of the Royal Society of Canada, Canadian Academy of Engineering, and Canadian Academy of Health Sciences. Dr. Shoichet holds the Order of Ontario, Ontario's highest honour and is a Fellow of the American Association for the Advancement of Science. In 2013, her contributions to Canada's innovation agenda and the advancement of knowledge were recognized with the QEII Diamond Jubilee Award. In 2014, she was given the University of Toronto's highest distinction, University Professor, a distinction held by less than 2% of the faculty. Dr. Shoichet received her B.Sc. from the Massachusetts Institute of Technology (1987) and her Ph.D. from the University of Massachusetts, Amherst in Polymer Science and Engineering (1992).

CREST 2015 Keynote Address

Women in Science: Opportunities and Strategies for Success Friday, March 6th 3:00pm – 4:00pm, Celebration Hall

Growing up in Canada with a supportive family, I was encouraged to pursue a profession and my dreams. My passion for chemistry grew with a great high school chemistry teacher, Mr. Mallin, and from there I pursued an undergraduate degree in Chemistry at MIT. During the advanced organic chemistry course, we synthesized a polymer and this ignited my interest in polymer science. After graduating from MIT, I was faced with a choice to pursue medical school or graduate school. While my parents were encouraging me to go to medical school, I decided to pursue a Ph.D. in Polymer Science and Engineering at the University of Massachusetts, Amherst, because I thought, that with a Ph.D., I could invent new treatment strategies for future applications. My first job was at CytoTherapeutics, an encapsulated cell therapy company, where my background in polymer science was a key element to success. If the cells were not properly protected from the immune system, they would be destroyed upon implantation. This job led me to a career in Regenerative Medicine as I had the opportunity to collaborate with amazing biologists and engineers in order to solve really big problems in medicine like Diabetes, Parkinson's Disease and chronic pain. After three years in industry, I returned to Canada, to my first job in academia – to the University of Toronto. In this presentation, I will describe my experiences as a woman in science and highlight strategies for success.

Workshop and Panel Schedule

Seeking Financial Success: Women's Financial Wellness Friday, March 6th: 10:00am – 11:00am, Celebration Hall

Topics covered in this workshop will help to answer important financial questions, such as: how do I build a solid financial house? How do I learn to budget effectively? How do I pay off my debt years sooner? What are the three Ds of investing, and how do they work?

Mika Forrester

Independent Financial Representative

Primerica

Mika believes that everyone should learn a few easy financial concepts that when applied, keep more money in our pockets and ensure that the financial products we use give us good value for the dollar. For the past 14 years she has been teaching people how money works and providing them with the products and services to put their goals into action. She holds regular Women's seminars and open 'How Money Works' seminars but her greatest satisfaction is still sitting with families and individuals who want to learn to make better financial decisions.

STEM and Gender Open-Forum Debate Friday, March 6th: 11:30am – 12:30pm, Celebration Hall

When people hear the phrase "women in STEM" they think about sexual harassment, but the topic is so much bigger than that. What's the reality for women working in STEM? From LEGO to ladies learning code to youtube comments, we'll chat about the women's successes and the barriers. We'll use videos, memes, and a participatory discussion to work through this tough topic together.

Moderator:

Erin Crickett

Public Education Coordinator

Sexual Assault Centre of Hamilton and Area (SACHA)

Erin Crickett is an intersectional feminist who has been working in the gender justice movement for over ten years and proudly works at SACHA as their Public Educator. She is passionate about experiential education and approaching social change work with both a sense of urgency as well as a sense of humour. Crickett brings her experience as a scientist, tall ship sailor, environmental educator, baker, migrant labour advocate, shelter worker, dog sledder, farm hand, and roller derby skater to her work as an educator.

Panel Discussion: Non-Traditional Academic Careers **Friday, March 6th: 1:30pm – 2:45pm, Celebration Hall**

So you're done your Ph.D. and you loved your time in academia and aren't ready to leave, but you don't want to become a tenure-track professor? Learn more about non-traditional positions in academia and how to successfully 'sell' your research, knowledge, and skills to land one of these jobs. This panel discussion will present four different perspectives and provide insight on how to establish a successful non-traditional career in an academic setting. Come prepared with questions!

Dr. Rosa da Silva (Ph.D.)

Assistant Professor (CLA), Biology, McMaster University

Dr. Rosa da Silva received her Ph.D. in Biology from the University of Toronto: Mississauga. Trained as a scientist, Rosa has transitioned her career into her greatest passion: a teaching-stream position where she focuses her research efforts on re-engaging students back into the classroom and encouraging scientific literacy. In this role, she strives to inspire all students to look beyond their textbooks by bringing the most current scientific discoveries and technologies into the classroom.

Dr. Catherine Maybrey (Ph.D.)

Graduate Career Strategist, McMaster University

Dr. Catherine Maybrey is the Graduate Career Strategist at McMaster University and owner of www.cmcoachingservices.com. Catherine began her career with dreams of the tenure track, and along the way discovered something much better – the ability to take the best of what she loves about academia and to apply it in practice helping others. Her approach to career development is grounded in labour market research, hiring practices, and innovative use of technology to make service available to all graduate students on their timetable.

Dr. Nancy McKenzie (Ph.D.)

**Manager, Biomedical and Commercialization Program,
McMaster University**

Dr. Nancy McKenzie obtained her Ph.D. from the Department of Biochemistry and Biomedical Sciences at McMaster University in 2009. From November 2008 until June 2014 she was hired as an assistant professor on a contractually limited appointment (CLA) in the Department of Chemistry and Chemical Biology. She was involved with developing the curriculum and teaching in the then newly launched

Workshop and Panel Schedule (*cont'd*)

Chemical Biology undergraduate program. From July-October 2014 she worked at Mohawk College as a Program Development Manager and in November returned to McMaster as manager of the new Biomedical Discovery and Commercialization program.

Dr. Sandra Monteiro (Ph.D.)
Assistant Professor, Clinical Epidemiology and Biostatistics,
McMaster University

Dr. Sandra Monteiro earned her Psychology M.Sc. in 2009 and Ph.D. in 2013 at McMaster. In 2014 she joined McMaster's Clinical Epidemiology and Biostatistics department as Assistant Professor, which on the surface may seem like a traditional academic position. However, one of her primary responsibilities in this role is to act as a consultant on research methods and statistics for two higher education institutes and medical clinicians interested in pursuing research in medical education.

Panel Discussion: Making the Move to Industry **Saturday, March 7th: 3:45pm – 5:00pm, PC 237**

Academia isn't the only sector where Master's and Ph.D. graduates can launch their career. Learn how you can make the transition from graduate school to industry or government from these five diverse panelists as they discuss non-academic career options. Come prepared with questions!

Dr. Samaneh Alibeigi (Ph.D.)
Research Specialist, Global R&D, ArcelorMittal Dofasco

Dr. Samaneh Alibeigi graduated with a Ph.D. in Materials Science and Engineering from McMaster University, where she explored the topic "Galvanizing of Mn-containing Dual Phase Steels for automotive applications" for her dissertation. Currently Samaneh is a Research Specialist at Canada's leading steel producer, ArcelorMittal Dofasco, under Global R&D, where she works on failure analysis projects, products characterization and developing new analysis techniques.

Joanne Bailey (M.A.Sc., P.Eng.)
R&D Facility Quality Assurance Specialist, Canadian
Nuclear Laboratories (formerly Atomic Energy of Canada)

Joanne Bailey completed her M.A.Sc. in Mechanical Engineering at McMaster University. She is currently employed at Canadian Nuclear

Laboratories, where she has been working in R&D since 2010. In her current role as R&D Facilities QA Specialist, she assists the R&D organization in ensuring projects and processes effectively accomplish their goals while adhering to required compliance programs to produce safe, secure, high quality results.

Dr. Catherine Cottrell (Ph.D., P.Eng.)
Project Engineering Manager NUE and AFCR, Candu Energy Inc., SNC-Lavalin Nuclear Inc.

Dr. Catherine Cottrell is the Project Engineering Manager for the Natural Uranium Equivalent fuel and Advanced Fuel CANDU Reactor projects, which focus on the use of advanced fuel cycles in CANDU reactors. Before joining Candu Energy, Catherine held similar responsibilities at Atomic Energy of Canada Ltd. for close to 15 years. A chemical engineering and environmental specialist, she has worked on a number of CANDU reactor projects including reactor life extension, nuclear options for oil sands and advanced fuel cycles.

Natalia Lecki (M.Sc.)
Environmental Sales, Hoskin Scientific

Natalia Lecki received her B.Sc. (Hons.) in Biology from McMaster University in 2009 and an M.Sc. in Biology from the University of Western Ontario in 2011. She taught statistics to professionals, and worked as a research technician for The Ontario Aggregate Resources Corporation before starting with Hoskin Scientific. Her current role in technical environmental sales allows her to work with every level of government, academia, and consulting to advise on instrumentation choices for everything from small community-led environmental initiatives to multi-million dollar mining contracts.

Elizabeth Rowan (M.A.Sc.)
Scientific Research Informatics Technology Support,
CanmetMATERIALS, Natural Resources Canada

Elizabeth Rowan completed her B.Sc. (Hons.) in Physics and Astronomy in 2011 and her M.A.Sc. in Material Science and Engineering in 2013 at McMaster University. Since graduation, Elizabeth has worked for CanmetMATERIALS, where she has taken on roles from project authority to database design, while tackling research from automotive applications to defense.

Oral Presentation Schedule

Saturday, March 7th: 10:00am – 11:00am

PC 237	SESSION 1	PRESENTER:
10:00	3-D NONLINEAR INSCRIPTION OF COMPLEX MICRO-COMPONENTS (3D-NSCRIPT)	Dinesh Basker <i>Chemistry</i>
10:15	MODULATION INSTABILITY OF BROAD LASER BEAMS IN A PHOTOPOLYMER	Kathryn Benincasa <i>Chemistry and Chemical Biology</i>
10:30	EXAMINING THE EFFECTS OF EXERCISE ON COGNITIVE FUNCTION FOR INDIVIDUALS WITH ALZHEIMER'S DISEASE AND THEIR CARE PARTNERS	Anastasia Berezowsky <i>Kinesiology</i>
10:45	GOLD NANOPARTICLES FOR CHEMOTHERAPY	Charmaine Cruje <i>Physics</i>

PC 335	SESSION 2	PRESENTER:
10:00	PROSTAGLANDIN E(2) REVERSES SCAR TISSUE PRODUCTION IN HUMAN KIDNEY EPITHELIAL CELLS: IMPLICATIONS FOR BIOMATERIAL IMPLANTATION	Kimia Sorouri <i>Chemical Engineering</i>
10:15	BEHAVIOURAL ECONOMICAL ASPECTS OF HOARDING IN CHILDREN AND ADOLESCENTS: A FUNCTIONAL MAGNETIC RESONANCE IMAGING STUDY	Rebecca Wetzel <i>Neuroscience (MiNDS)</i>
10:30	A CASE STUDY IN DOCUMENT-DRIVEN DEVELOPMENT FOR SCIENTIFIC AND ENGINEERING SOFTWARE	Thulasi Jegatheesan <i>Computing and Software</i>
10:45	KAISO DEPLETION ATTENUATES METASTASES OF TRIPLE NEGATIVE BREAST CANCER CELLS	Blessing Bassey-Archibong <i>Biology</i>

Saturday, March 7th: 11:30am – 12:30pm

PC 237	SESSION 3	PRESENTER:
11:30	FEAR (BUT NOT LOATHING) IN EPIDEMICS	Irena Papst <i>Mathematics & Statistics</i>
11:45	BRUISES TO THE BRAIN: DECREMENTS IN COGNITION AND EMOTIONAL STABILITY AFTER MILD TRAUMATIC BRAIN INJURIES	Rachelle Ho <i>Rehabilitation Science</i>
12:00	KAISO NEGATIVELY REGULATES NOTCH SIGNALLING IN COLON CANCER CELLS	Shaiya Robinson <i>Biology</i>
12:15	COMMUNICATING SCIENCE THROUGH LIVE ARTS PERFORMANCE	Sarah Beatty <i>Geography and Earth Sciences</i>

PC 335	SESSION 4	PRESENTER:
11:30	DOES BICARBONATE PRETREATMENT PRESERVE MUSCLE FUNCTION IN UNTRAINED SUBJECTS FOLLOWING STRENUOUS EXERCISE? BAKING SODA AS A NUTRITIONAL SUPPLEMENT	Michelle Saoi <i>Chemistry and Chemical Biology</i>
11:45	WHAT CAN INTERLOPERS TELL US ABOUT TIP-OF-THE-TONGUE STATES?	Kathleen Oliver <i>Psychology, Neuroscience & Behaviour</i>
12:00	STUDY OF ALUMINUM-SILICON IN THE LIQUID STATE	Tara Power <i>Physics and Astronomy</i>
12:15	UNDERSTANDING THE RELATIONSHIP BETWEEN ARTERIAL STIFFNESS AND COGNITION IN OLDER ADULTS	Daria Shkredova <i>Kinesiology</i>

Full Research Abstracts can be found on the WISE website.
(<http://science.mcmaster.ca/wise/CREST.html>)

Oral Presentation Schedule (*cont'd*)

Saturday, March 7th: 2:00pm – 3:15pm

PC 237	SESSION 5	PRESENTER:
2:00	THE ROLE OF SERPIN FROM THE GUT BACTERIUM BIFIDOBACTERIUM LONGUM IN GLUTEN-RELATED DISORDERS	Jasmine Dong <i>Biology</i>
2:15	EXAMINING THE RELATIONSHIP BETWEEN ACUTE AEROBIC EXERCISE AND LONG-TERM MEMORY IN YOUNGER ADULTS	Hanna Fang <i>Kinesiology</i>
2:30	FACIES ANALYSIS AND PALEODISCHARGE OF RIVERS WITHIN A COMPOUND INCISED VALLEY, CRETACEOUS FERRON SANDSTONE, UTAH	Stephanie Kimmerle <i>Geography & Earth Sciences</i>
2:45	INVESTIGATING SEX DIFFERENCES IN ENDOTHELIAL FUNCTION IN OLDER ADULTS	Natalie D'Isabella <i>Rehabilitation Science</i>
3:15	PREVALENCE OF IODINE DEFICIENCY IN CANADIAN ADULTS	Adriana Nori de Macedo <i>Chemistry & Chemical Biology</i>
PC 335	SESSION 6	PRESENTER:
2:00	EXERCISE PRESCRIPTION FOR BRAIN HEALTH: DETERMINING THE INTENSITY OF AEROBIC EXERCISE NEEDED FOR OPTIMAL COGNITIVE FUNCTION IN AGING	Ana Kovacevic <i>Kinesiology</i>
2:15	ATM REGULATES PHOSPHORYLATED (PT371)TRF1 TO FACILITATE THE FUNCTIONAL ASSEMBLY OF ALT-ASSOCIATED PROMYELOCYTIC BODIES	Angus Ho <i>Biology</i>
2:30	INTIMATE PARTNER VIOLENCE AMONG RURAL AND INDIGENOUS COMMUNITIES IN NORTH AMERICA: A SCOPING REVIEW	Patricia Hoyeck <i>Orthopaedic Surgery</i>
2:45	THE STRUCTURAL DISJOINING POTENTIAL OF GRAIN BOUNDARY PREMELTING IN BINARY ALLOYS USING PHASE FIELD CRYSTAL MODEL	Elizabeth Rowan <i>Materials Engineering</i>
3:15	COMPARATIVE GENOMICS AND FUNCTIONAL CHARACTERIZATION OF THE SIL TWO-COMPONENT SYSTEM IN THE STREPTOCOCCUS MILLERI GROUP	Michelle L. Mendonca <i>Biochemistry and Biomedical Sciences</i>

Sexual Assault Center of Hamilton & Area (SACHA)

What is SACHA?

SACHA is the Sexual Assault Centre of Hamilton & Area and has been working to end sexual violence since 1975. We support survivors of sexual violence of all genders through counseling, advocacy, as well as offering cultural specific groups counseling through our Diverse Communities Outreach program. SACHA also works to prevent sexual violence and promote a culture of consent by providing workshops and training through the Public Education program. One of our community projects is outlined below:

"It's Time...": To end violence against women on campus

In April 2012, SACHA in partnership with the YWCA Hamilton, initiated a project at McMaster University focused on engaging students (ages 17-24) in the prevention of violence against young women on campus. Funded by Status of Women Canada, this work has been guided by an on-campus Advisory Committee consisting of students, staff, and faculty representation from diverse areas of campus life. The project gathered information from different sections of campus and developed an analysis and many strategies for institutional and cultural changes that could prevent violence against young women.

We have listed an overview of the eight recommendations from the project below.

- 1. The establishment of the Violence Against Women Working Group of the President's Advisory Committee on Building an Inclusive Community.*
- 2. The implementation of the Sexual, Domestic, and Family Violence Response Protocol.*
- 3. The appointment of a Sexual, Domestic, and Family Violence Response Coordinator.*
- 4. The development of sustained partnerships with community organizations in Hamilton that specialize in violence against women, culminating in a Women's Services Satellite Office on campus.*
- 5. The implementation of the Campus Community Alert Policy which includes concrete assessment criteria for incidents of sexual or gender based violence that constitute a serious or ongoing threat to the campus community.*
- 6. The implementation of recommendations to policy made via the It's Time project regarding the Sexual Harassment Policy and the Student and Residence Codes of Conduct.*
- 7. The implementation of training on violence against women and gender based violence as a core component of mandatory training for all student leaders, faculty, and staff on campus.*

8. *The initiation of an annual, campus-wide education and awareness campaign engaging all aspects of the McMaster community on issues of violence against women and gender based violence.*

These recommendations have been compiled by the Project Coordinators for IT'S TIME to End Violence against Women on Campus: Meaghan Ross and Areej Siddiqui.

Interested? More SACHA information:

24 Hour Support Line: 905.525.4162

Web: sacha.ca

Blog: blog.sacha.ca

Facebook: [/sachamilton](https://www.facebook.com/sachamilton)

Twitter: [@SACHA_tweets](https://twitter.com/SACHA_tweets)

Cover Art – Biographies

Alice Ball (1892 – 1916)



Alice Ball was a bright young American chemist that saw great success in her short-lived research career. Ball was the first woman and African American to graduate with a Master's degree from the University of Hawaii. During her studies, Ball developed an injectable chaulmoogra oil extract that became the most effective treatment of Hansen's disease (leprosy) until the 1940s. Although she passed away before she could publish her results, a fellow chemist at the university was able to continue her work to enable the production of the injectable extract in large quantities.

Rosalind Franklin (1920 – 1958)



Dr. Rosalind Franklin was an English chemist and X-ray crystallographer whose work was essential to the discovery of the double helix structure of DNA, as well as the structures of RNA, viruses, coal and graphite. Franklin's images of DNA diffraction patterns were shared without her permission, and she passed away four years before the Nobel Prize in Physiology or Medicine was awarded to Watson, Crick, and Wilkins for the discovery of the double helix shape of DNA. Although she is largely known for her work on DNA, Franklin published an additional 40 articles on viruses, coals and carbon, in her 16-year research career.

Roger Arliner Young (1889 – 1964)



Dr. Roger Arliner Young was an American scientist of zoology, biology, and marine biology. Originally enrolled at Howard University to study music, with poor academic success, Young was mentored by Ernest Everett Just, a prominent black biologist. After obtaining her Master's degree, Young taught at Howard and collaborated with Just during summers at the Marine Biological Laboratory. Young later completed her doctorate, becoming the first African-American woman to obtain a PhD in zoology. Young taught at numerous universities and contributed greatly to research in her fields, including the effects of radiation on sea urchin eggs, the structures controlling salt concentration in paramecium, and the hydration and dehydration of living cells.

Chien Shiung-Wu (1912 – 1997)



Dr. Chien-Shiung Wu, or "The First Lady of Physics", was a Chinese-American physicist that made significant contributions in the research of radioactivity. Wu obtained her PhD from the University of California, Berkeley and later taught at Princeton and Columbia University. Wu's most famous accomplishments include her work on the Manhattan Project, in which she helped develop the process for separating uranium metal into the U-235 and U-238 isotopes, and the Wu experiment, which contradicted the "Law of Conservation of Parity". The latter earned her colleagues a Nobel Prize in physics, while it earned Wu the inaugural Wolf Prize in Physics. Wu was the first female instructor in the Physics Department at Princeton and the first female President of the American Physical Society.

Cover Art – Biographies (cont'd)

Jane Goodall (1934 –)



Dame Jane Goodall is an English primatologist, ethologist, anthropologist and UN Messenger of Peace. Goodall's passion for animals began at a young age upon receiving a lifelike chimpanzee toy named Jubilee from her father. Eventually, along with her love of Africa, it led her to study the Kasakela chimpanzee community in Gombe Stream National Park, Tanzania. Goodall obtained her PhD in ethology from Cambridge University and was the eighth person to do so without having first obtained a bachelor's degree. In addition, Goodall is a leading activist for animal welfare and environment conservation, having founded the Jane Goodall Institute in 1977.

Rachel Carson (1907 – 1964)



Rachel Carson was an American marine biologist and conservationist. A gifted writer, Carson first majored in English before switching to biology and completing a Masters in zoology at John Hopkins University. While working at the U.S. Bureau of Fisheries Carson published several bestsellers including *The Sea Around Us* and *Silent Spring*. In *Silent Spring* Carson took on the chemical industry, urging caution with the use of synthetic pesticides. Winning the battle with a nationwide ban on DDT and the creation of the U.S. Environmental Protection Agency, Carson unfortunately lost her own internal battle with breast cancer. Posthumously Carson was awarded the Presidential Medal of Freedom by Jimmy Carter.

Mae Jemison (1956 –)



Dr. Mae Jemison is an American physician and a NASA astronaut. At 16, Jemison entered Stanford University where she graduated with a B.S. in chemical engineering and a B.A. in African and Afro-American Studies. Jemison then completed her M.D. at Cornell University before serving as a Peace Corps Medical Officer in Liberia and Sierra Leone. Jemison later joined NASA's astronaut program and in 1992 became the first African-American woman to enter space. A strong advocate of both science literacy and technology, Jemison has founded the Jemison Group, a technology consulting company, BioSentient Corporation, an innovator of medical devices, The Earth We Share, an international science camp, and has taught at Dartmouth and Cornell.

Marie Curie (1867 – 1934)



Marie Curie was a Polish and naturalized-French physicist and chemist that pioneered research on radioactivity and discovered the elements polonium and radium. She was the first woman to receive a PhD in research science in Europe and the first female professor at the Sorbonne. She won the Nobel Prize in 1903 in Physics and 1911 in Chemistry, becoming the first woman to be awarded the prize and the first person to receive prizes in two different disciplines. Her groundbreaking research was conducted without knowing the long-term health effects of radiation, and to this day her notebooks are so radioactive they cannot be handled.

Shirley Ann Jackson (1946 –)

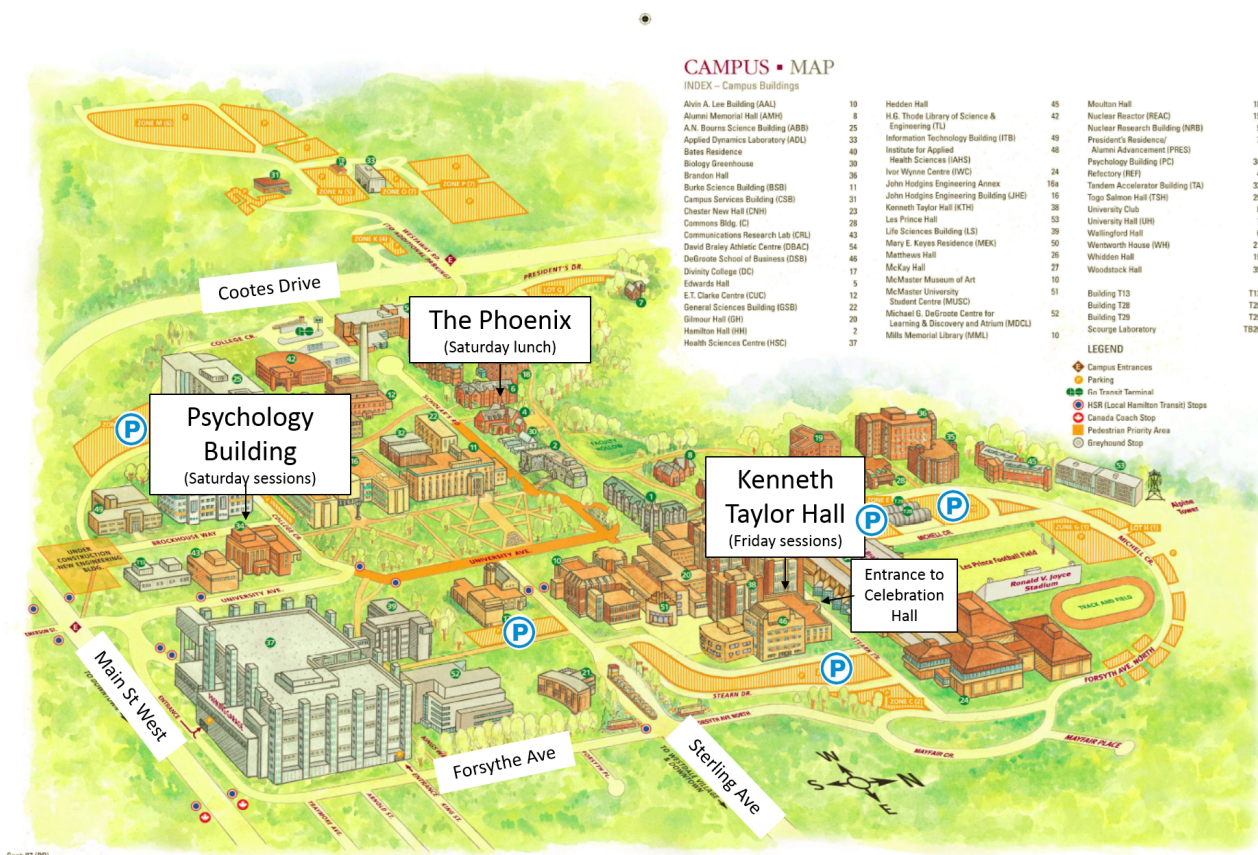


Dr. Shirley Ann Jackson is an accomplished American Physicist. Having excelled at science from a young age, Jackson received her PhD in nuclear physics from MIT and has since prepared or collaborated on over 100 scientific articles. Throughout the course of her career Jackson has obtained many firsts, including: the first African American woman to earn a doctorate at MIT, the first woman and African American to serve as Chairman of the U.S. Nuclear Regulatory Commission, and the first woman and African American president of Rensselaer Polytechnic Institute, a position she currently holds. Jackson has received many honours and distinctions, including being inducted into the National Women's Hall of Fame in 1998 and sitting on the President's Council of Advisors on Science and Technology since 2009.

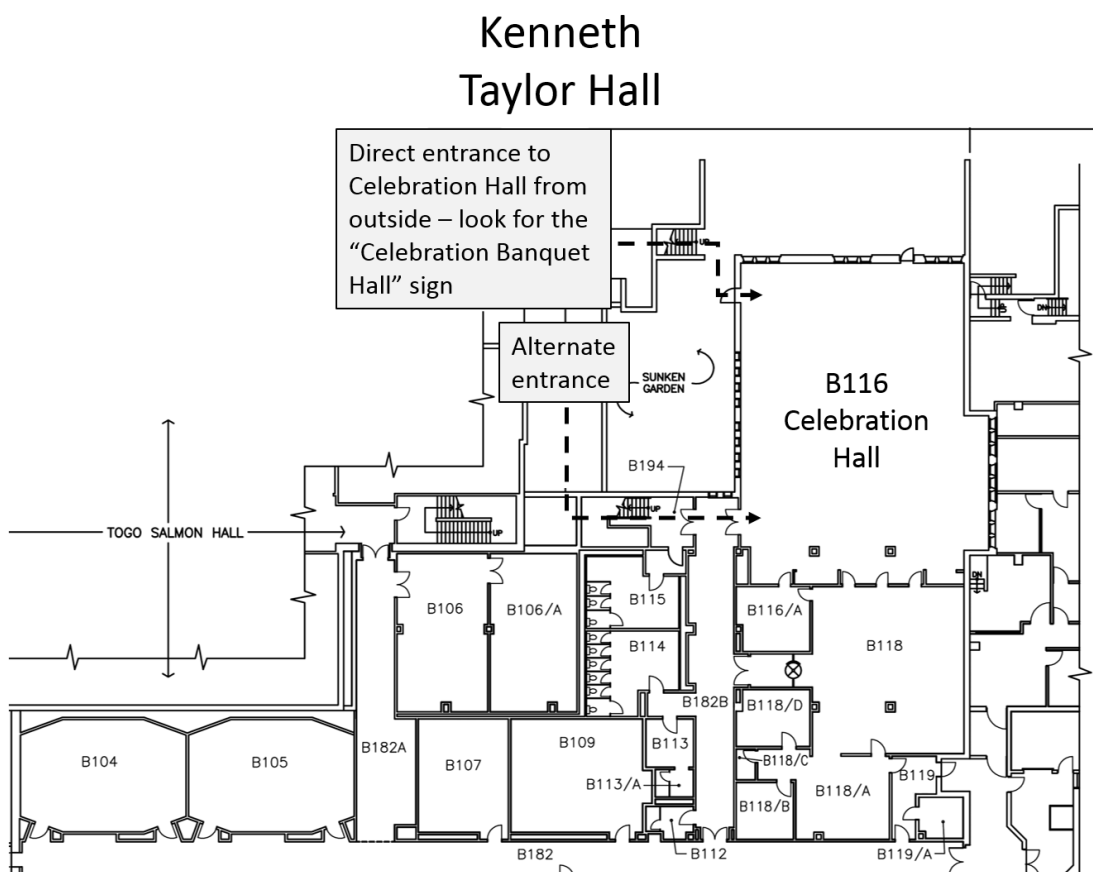
Cover art designed by: Michelle Saoi

Maps

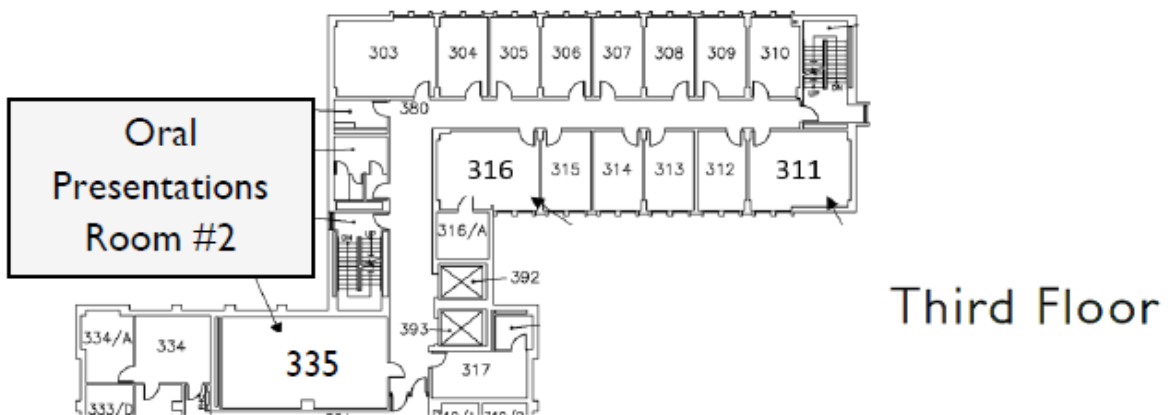
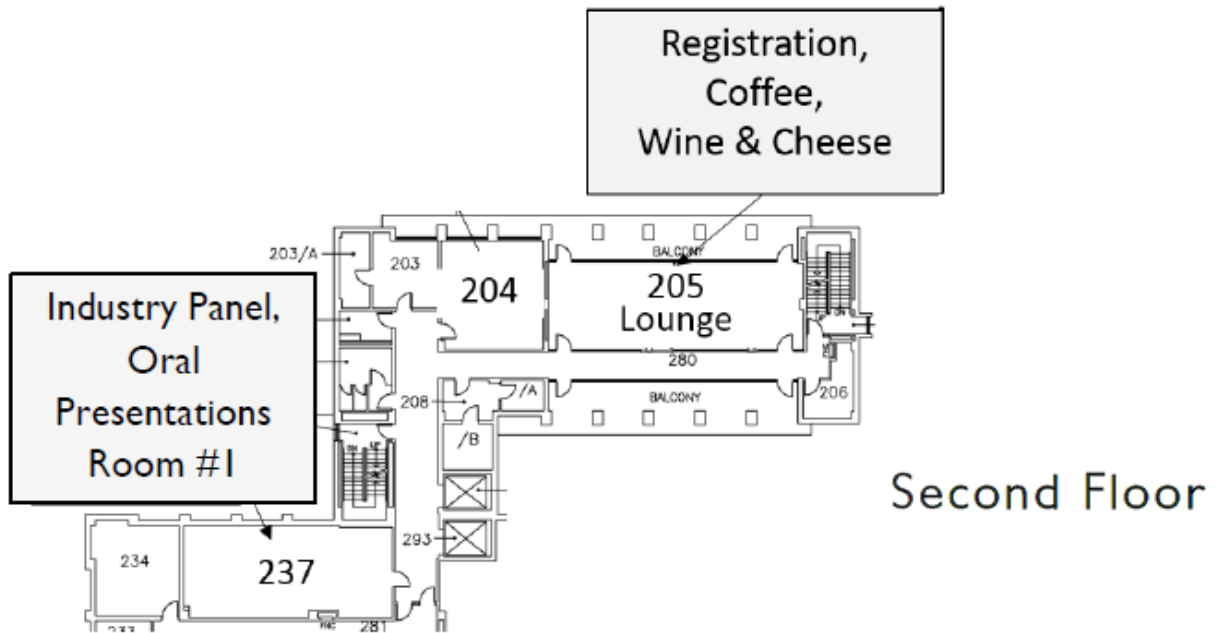
Campus



Celebration Hall



Psychology Building



Notes