Chairs for Women in Science and Engineering

Update May 2008

This Chair program was launched in 1996. The goal of the program is to increase the participation of women in science and engineering and to provide role models for women active in and considering careers in these fields. NSERC funding must be matched by cash contributions from corporate sponsors.

Objectives of the Chair Program

- Develop, implement, and communicate strategies to raise the level of participation of women in science and engineering as students and as professionals, specifically to:
  - encourage female students in elementary and secondary schools to consider careers in science and engineering;
  - increase the enrolment of women in undergraduate and graduate programs in science and engineering in all Canadian universities and colleges;
  - increase the profile and retention rate of women in science and engineering positions;
  - eliminate barriers for women who wish to pursue careers in science and engineering; and
  - promote the integration of female students and professionals both within and outside academia.
- Provide female role models who are accomplished, successful, and recognized researchers in science and engineering.
- Develop and implement a communication and networking strategy to ensure a regional and national impact on opportunities for women in science and engineering.

Current Chairholders

- **Atlantic Provinces**: Dr. Cecilia Moloney, Professor of Electrical and Computer Engineering, Memorial University of Newfoundland. Corporate Sponsor: Petro-Canada
- **British Columbia & Yukon**: Dr. Anne Condon, Professor of Computer Science, University of British Columbia. Corporate Sponsor: General Motors
- **Ontario**: Dr. Valerie Davidson, Professor of Engineering, University of Guelph. Corporate Sponsor: Hewlett-Packard (Canada) Co.
- **Prairie Provinces**: Dr. Julita Vassileva, Professor of Computer Science, University of Saskatchewan. Corporate Sponsor: Cameco
- **Quebec**: Dr. Nadia Ghazzali, Professor of Mathematics and Statistics, Université Laval. Corporate Sponsor: Industrial Alliance Insurance and Financial Services Inc.

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Outreach Activities

• Partnerships: With WISE Newfoundland and Labrador, in particular (a) ongoing logistical and financial support of WISE Summer Student Employment Program (WISE SSEP), now in 2008 its its 19th year of operation (see http://www.edli.ca/wise/ssep.htm); (b) participation in WISE SSEP program review and April 25, 2008 SSEP Evaluation Report launch and NL provincial funding announcement.

• Workshops/Seminars: “Women as Leaders Mentors, Scientists/Engineers,” workshop by CWSEA Graduate Student Group, and “Bridging the Age Gap: Creating Fun Science Projects for All Ages,” a seminar by members of WISE UP (Undergraduate Project), both to be presented at CCWESTT 2008, Guelph, May 29-31, 2008, with logistical and partial financial support provided by the CWSEA.

• Student Groups: Ongoing support to groups at MUN, e.g. WISE UP and CWSEA Graduate Student Group.

Communications and Networking


• Brown Bag Sessions: Presentations by students, staff, and faculty from both science and engineering, to share information about science & engineering in an informal setting, offered over Fall 2007 and Winter 2008 by CWSEA in partnership with MUN Engineers Without Borders.


• Participation on Boards/Councils: Coastal Women 2009 Steering Ctte; FutureSET Board; Engineers Canada Women in Engineering Advisory Group; MUN Women’s Studies Council (Cecilia Moloney). WISE NL, and Women in Resource & Development Boards of Directors; WISE SSEP co-director (Caroline Koenig).

• Publicity: CWSEA brochure and website www.cwsea.ca

Research


• Research Supported: Two student travel bursaries of $500 each for women student presenters to travel to Atlantic Theoretical Chemistry Symposium, August 2007, at Memorial University.
The goal of Jade Project is to increase the participation and success of girls and women in the physical sciences and engineering in B.C. and the Yukon. Careers in these fields provide incredible opportunities to understand our world, to develop new technologies that improve our quality of life, and to enjoy the creative, logical, and collaborative nature of science and engineering work. Yet, the participation of women in these fields is very low.

Our projects aim to change the way that computer science is taught, to provide research opportunities for undergraduate students, and to build a network of leaders to effect change. Our focus is in British Columbia and the Yukon, although our program for undergraduate researchers is for women across Canada, and materials developed as part of the project are available to all. Specific projects are:

**Jade Treasures:** The goal of the Jade Treasures Project is to provide resources and materials for high school students that dispel common myths about the field of computer science.

**Connecting with Computer Science Course:** In this interdisciplinary college-level course, we introduce computer science principles through applications in the arts, psychology, and biology.

**Canadian Distributed Mentor Project:** Coordinated by Dr. Faith Ellen Fich at U. of Toronto, the CDMP supports outstanding undergraduate women in Computer Science and related fields to travel to Canadian research institutions for a summer of research and mentoring.

**Jade Bridges Program:** Bridging across the province, we will seed new projects in B.C. and the Yukon that are aimed at increasing the participation of women in Science and Engineering. Project leaders form a regional network.

Jade, the official gemstone of British Columbia, is renowned for its beauty and strength, and is used to indicate preciousness in Chinese culture. We hope that our project will touch the lives of many women, inspiring them to try something different, satisfying, and very rewarding.

The Jade Project is generously funded from 2004-2009 by the Natural Sciences and Engineering Research Council of Canada, as part of their NSERC Chairs for Women in Science and Engineering program, and by General Motors Canada. Additional support is provided by the Computing Research Association's Committee on Women in Computing and by the Computer Science Department at U. of British Columbia. More information is available at [www.jadeproject.ca](http://www.jadeproject.ca)
Projects 2007-2008

The Science Ambassadors project aims to increase the interest of aboriginal youth in science and engineering. A graduate student visits an aboriginal community on a weekly basis throughout the year or spends 2 months in the community helping the science teacher organize hands-on activities. In this way a strong relationship is built between the student and the community. This relationship is based on respect to the indigenous science knowledge in the community and extends beyond the term of the Ambassador. The first Science Ambassadors are Dawn Pratt and Danielle Anderson working respectively in Muscoway and Beardy’s & Okemasis First Nations in Saskatchewan and in six schools in The Pas and at the Opaskwayak Cree Nation in Manitoba. For more details, please, check http://wise.usask.ca/science-ambassadors.html

The WISEtales community allows women in science and engineering to share personal stories and experiences. Through sharing stories, women will share advice, encouragement, become role-models and build relationships. Informal mentoring will happen and role models will emerge. Join us at http://wisetales.usask.ca

SaskScienceNetwork connects outreach activities on the prairies. The website provides information about organizations engaged in science and engineering outreach. It hosts outreach resources and a calendar of events. This site will help teachers find student-speakers to visit their class and talk about science, and provide access to organized outreach programs, such as science camps, science road shows, fairs, etc. For more information, please visit our website at http://sasksciencenetwork.ca.

Studies of the Situation of Females in Science and Engineering Working together with colleagues in psychology and sociology, Dr. Vassileva investigates the situation, working climate, and attitudes of female students, faculty, researchers and instructors at the University of Saskatchewan and compare the results with those from other studies, from Canada and Europe. The results will be used to inform the administration and the public about the situation of women and to provide directions for policies and measures for improvement.

To learn more about the Chair and her Projects, please visit our website: http://wise.usask.ca.
Update on recent activities (2007-08)

Outreach
- Science and Technology Consortium (Actua, Discover Engineering, Ryerson University, Lakehead University) – activities with almost 5000 students
- Ready, SET, Go Workshops – 225 interactive, design workshops across Ontario with over 5000 students. Recently expanded to grade 7 and 8 classes
- Ontario Network of Women in Engineering (ONWIE)
  - Go Eng Girl! – over 800 youth and 800 parent participants in 2007
  - Academic Bootcamp for Female Engineering Grad Students and Post-Docs at Queen’s University (21 Students + 18 faculty, staff & administrators)
- Roboticon and WindENG competitions for high school students
- Elements (Girls Unlimited) workshop and resource sharing for at-risk girls in the Jane and Finch neighborhood
- Pathfinder and Girl Guide Badge Days (Computing and STEM badges)
- Skills Portfolio Development Workshop for post-secondary students

Research & Presentations
- Plenary lecture “Outside of our rooms- networking across the academy”, Royal Society of Canada Conference “Rooms of their own: Women in the Knowledge Economy”
- Norma Slepecky Memorial Lecture, Syracuse University “Challenges and Future Directions for Women in Science and Engineering”
- WiSE Research Alliance - National survey of graduate students in science and engineering (reports available in English and French)
- Collaboration with University of Ottawa Women in Engineering Group (R. Heap, PI)

“Building on Success” – 12th CCWESTT Conference
- National biennial conference hosted and coordinated by the Chair at the University of Guelph

For more information, visit: [www.soe.uoguelph.ca/webfiles/cwse](http://www.soe.uoguelph.ca/webfiles/cwse)

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The NSERC-Industrial Alliance Chair is composed of Nadia Ghazzali, the Chair holder, and seven members coming from different university backgrounds such as statistic, engineering, management and more. The goal of the Chair is to stimulate young girls’ interest in a science or engineering career by putting in place concrete measures and promotional programs and by instituting actions that could enhance the merit of active scientific women in the work place. More precisely, the activities’ program for the NSERC-Industrial Alliance Chair for women in sciences and engineering includes five points:

- to get involved in high school, college, and university levels as well as in the work place;
- to initiate activities leading to the accomplishment of women’ leadership in sciences and engineering;
- to plan out a strategic cooperation and collaboration with other chair members of the Canadian regions;
- to introduce and promote the programs and activities of the NSERC-Industrial Alliance Chair as well as the other Canadian local chairs;
- to introduce Canadians and Quebec activities and expertise bounded to the women’ problem with sciences and engineering and to stimulate the activities network between people and organisms, most specially French.

**Research part:**

- Public discussions (ACFAS’08 and ICWES14) about understanding the loss of interest in science and engineering programs for young students.
- Invited conferences such as CCWESTT (with other Canadian Chairs), CPA’08 (awards for graduated female students in physics) and forums such as “Career and diversity”.
- Symposium that will be given as part of the 400th activities in Quebec City about Women and sciences.
- Other research on subjects like stereotypes, conciliation between work and family, interest of young women in sciences and engineering and history of Quebec’ women scientists.

**Promotional part:**

- Different general public and lunch conferences.
- High Performance Computing Symposium (HPCS’08).
- YWCA cocktail party which will take place as part of the 400th activities in Quebec City.
- Some expositions such as “Physique de femmes”, which portrayed the careers of women scientists from France and Quebec, “Tempêtes des sciences”, which presented to students (in a science program at the FX Garneau college) the practical side of their studies and “Les filles et les sciences: un duo électrisant”, which showed young girls how they could take their place in a science and technology program (in Quebec City for the first time).
- This part also includes a patronage program for young female engineers.

**International part:**

Includes collaborations with the International Network of Women Engineers and Scientists (INWES) and with the World Federation of Engineering Organisations (WFEO).

For more information, visit our website: [www.chaire-crsng-inal.fsg.ulaval.ca](http://www.chaire-crsng-inal.fsg.ulaval.ca)

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