

Pathmakers - Building Next Generations

Lan Yang and May Ou, Executive Members, WISE Ottawa

Lan Yang and May Ou, graduate students from the University of Ottawa and members for the WISE (Women in Science and Engineering) Ottawa Chapter (www.wise-ottawa.ca), wish to share their experiences as **Pathmakers** at a local high school. Established in 1986, **Pathmakers** (www.pathmakers.ca) exist to encourage youth, especially girls and young women to consider a career in technology or engineering. **Pathmakers** are women currently studying or working in these fields.

- **Pathmakers** visit schools in the Ottawa area during school hours to make short presentations about their field of Study and career goals.
- Share their knowledge and experience with K-12 students.
- Give information about possible career choices in engineering and technology.
- Discuss stereotype of gender roles.

In 2004, four local organizations, including WISE Ottawa, formed an Alliance to improve the **Pathmakers** program delivery. They have goals similar to those of the **Pathmakers** with a similar target population, K-12 students.

On February 17th 2005, Lan Yang and May Ou visited the Namur Intermediate School, which is located in a rural village at the foothills of the Laurentien Mountains in Namur Quebec, near the town of Montebello, Quebec, Canada, more than two hours of highway driving.

Prior to their visit, they prepared some materials which included WISE Newsletter, items from IEEE (the

Institute of Electrical and Electronics Engineers).and engineering magazines, visual aids on laptops, and some small prizes (two WISE t shirts, and some pens from the career day event at Carleton University).

Being unfamiliar with the directions, they arrived at the school late and the presentation had to be made in the afternoon rather than in the morning as scheduled. Their audience was a class of about 20 students around the ages of 12-15. Firstly, they discussed the prepared materials with the teachers to obtain some preliminary feedback. They were very helpful with their suggestions: talk about their experiences, job prospects, etc.

In about an hour, the main theme of "what is engineering" was presented with the following outline:

1. Introduce each other
2. What is Engineering
3. Significance of the iron ring
4. types of engineering with examples (civil, mechanical, computer, chemical)
5. Biomedical engineering with examples (pacemakers, rural healthcare delivery, wearable devices, telemedicine)
6. Sample Thesis topics (AI and medicine, piano injury prevention)
7. Questions period
8. Contest for prizes

Overall, the students appeared interested in the topics presented. They were shy at first to ask questions, but eventually they opened up. They responded enthusiastically to Lan's laptop with its built-in webcam.

Lan and May missed discussing a little more about career options and details about life as engineering students. However, they felt students received much to think about for now. Overall, it was an excellent experience for both presenters. They felt a sense of satisfaction from being able to introduce these fields to the eager and bright students. They expressed their thanks to the teachers of Namur Intermediate for giving them the valuable opportunity.



Lan and May (centre) with teachers



Lan with students and teachers

WISE Chapters



Why WISE?

Tamara O'Connell, Member, WISE Newfoundland and Labrador

At Memorial University the enrollment of women in the engineering and sciences fields has been steadily rising, but female presence in the engineering faculty is still lacking. According to the Memorial University of Newfoundland Fact Book, in the fall semester of 2003 only 18% of the undergraduate students enrolled in the engineering faculty were female. This representation has only peaked at 23% in the last seven years. The relevance of the continued need to increase the role of women in engineering is supported by these figures.

Women In Science and Engineering Undergraduate Project (WISE UP), supported by the Faculty of Engineering and Applied Science at Memorial University of Newfoundland, is dedicated to promoting the participation of women in engineering and science fields both in the education system, and later in the workforce. The group is headed by Heather Brown and Alison Nofall, both currently enrolled in Memorial University's engineering program. The group aims to encourage young women to pursue their interests in science and engineering with events exposing them to the opportunities that are available.

A popular event, continuing in the upcoming months, is the Girl Guide Badge. WISE UP members introduce the Guides to the various aspects of engineering's disciplines of study. The Guides earn their badges through a variety of activities designed to familiarize the girls with the wide field of engineering. If your Guiding organization is interested in completing the Engineering or Science badge, or would like assistance with other science and technology activities, contact WISE UP at wise@cdli.ca.

WISE UP also hosts career nights that give high school students the opportunity to learn more about potential career choices. Presenters from a variety of fields, ranging from medicine to engineering, speak about their careers and respond to students' questions.

Through these activities and events, WISE UP hopes to increase

awareness to young women interested in the fields of math and science that engineering is a viable option for them.

Look for members of WISE UP at the annual junior high school bridge competition and Mall Day that takes place on March 5, 2005 in St. John's at the Village Mall.



80th Pleasantville Girl Guides learn about series and parallel circuitry during an engineering badge run by members of Memorial University's WISE Undergraduate Program.

Three Exciting Items from WISE Ottawa

Misa Gratton, President, WISE Ottawa

Since August 2004, WISE Ottawa Executive Members have been working extremely hard to prepare and deliver significant events and products to the carry momentum of expanded activities. To share information, four items were selected and reported in this article. They represent an enormous amount of work carried out by a small group of persons, to a degree that is not quite sustainable. If the Chapter is to continue its successful existence, more WISE Ottawa members need to contribute as volunteers.

(1) Annual Networking Event on October 7, 2004, at Fairmont Chateau Laurier

An elegant networking meeting was held to kick off the 2004-2005 program. It is open to members and non-members who come to socialize and network with other WISE members in a relaxed environment. It enables participants to take advantage of the occasion to meet new friends, and hear about the upcoming WISE events that are being planned for 2004/2005. Over 40 participated, which was a significant increase from the previous year. After the meeting, Laura Neville, Program Coordinator, wrote an informative note containing the follow-up responsibilities for Executive Members.

(2) Career Day on January 19, 2005 (Two events jointly organized by the WISE Ottawa Chapter, the Women in Leadership Foundation and Carleton University. **Event 1** drew approximately 60 participants and **Event 2** over 100.)

Event 1: Engineering Career Opportunities Information Session

Presenters:

- * **Mihaela Andronic**, Nortel Networks
- * **Julia Kranjac**, Research in Motion
- * **Lieutenant-Colonel Teresa McNutt**, P Eng, Canadian Forces

Moderator: Dr. Moyra McDill, Professor, Systems and Computer Engineering, Carleton University

Event 2: Women in Leadership Panel

Panel Members:

- * **Dr. Valerie J. Davidson**, NSERC/HP Chair (2003 - 2008) for Women in Science and Engineering
 - * **Ms. Linda J. Keen**, President and CEO, Canadian Nuclear Safety Commission
 - * **Ms. Kalli Lefevre**, Vice President, Converged Carrier OAM, Nortel Networks
 - * **Lieutenant-Colonel Teresa McNutt**, P Eng, Canadian Forces
- Moderator: Ann Tierney**, Carleton University Dean of Student Affairs

(3) Annual General Meeting, May 3, 2005

Featured Speakers:

- * **Dr. Monique Frize**, P. Eng., Professor, Systems and Computer Engineering, Carleton University and Professor, School of Information Technology and Engineering, University of Ottawa, Topic: **Declining Enrolment & Update**
- * **Dr. Hema Murty**, Shanti Consulting, Ottawa, Canada, Topic: **Balanced Lifestyles for Technical Women - Is it Possible?**

Past events are archived and additional information is available from the WISE Ottawa Web site, www.wise-ottawa.ca.

(4) In 2004, an **Alliance** was formed to help provide career-related information, opportunity, mentoring and support for young people, especially girls. A brochure was developed and printed and available for distribution.

The **Alliance** is a partnership of the following organizations:

- **Pathmakers**
- **WISE** (Women in Science and Engineering) **Ottawa Chapter**
- **Passport to Prosperity (P2P)**
- **Actua**

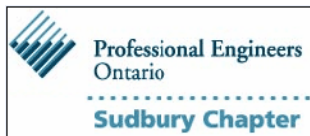
(Note: P2P is a program of OCRI (Ottawa Centre for Research and Innovation), in participation with the Ontario Ministry of Education and Ministry of Training Colleges and Universities. If your organization wishes to support the **Alliance**, you are invited to contact Dr. Monique Frize, NSERC/Nortel Chair (1998 - 2002) for Women in Science and Engineering at mfrize@connect.carleton.ca.)

Acknowledgement: WISE Chapters sincerely thank the following organizations for their generous support.

From Ottawa Chapter:



From Sudbury Chapter:



From Toronto Chapter:

