Presentation to BCIT

Wednesday, February 8, 2012
The “Ask” for this talk

- Info on Chair
- “State of the Union”
- What it's like ... and some advice
Mission: To advance engineering and science as welcoming careers that serve our world through holistic understanding and creative, appropriate and sustainable solutions

Goals:
• Awareness and Outreach
• Recruitment
• Retention and Industry Support
About the Chairholder

- NSERC Chair for Women in Science and Engineering for the British Columbia and Yukon Region
- University of British Columbia Mechanical Engineering Professor
- Research centered around human-robot interaction
- Founded UBC’s Women in Engineering (WIE) program and launched UBC Engineering’s Mentoring program
The WWEST Program

WWEST in Academe
WWEST in the Classroom
WWEST in the Community
WWEST at Work
WWEST Partners

WWEST.CA
• **Mech 2 – CSL in a day**
  – 128 second year students participated in one-day CSL activities with local community partners: Think Geek, Terra Nova Sharing Farm, Richmond Nature Park, and the Great Canadian Shoreline Cleanup

• **Mech 410E – Global Engineering Leadership**
  – A technical elective open to all engineering students who have completed second year, with a goal of helping students understand the role of engineering leadership through a socially responsible, global perspective

• **Mech 410P – GEL Practicum in Mexico**
  – Students who complete Mech 410E can continue into a 7 week placement with a community partner in Mexico and earn their Impact of Technology on Society credits.
The WWEST Partners program provides funding and training for community organizations for:

- Promoting outreach
- Recruitment
- Retention
Outreach Programs

- **UBC Girlsmarts**
  Computer Science workshops for Grade 6 girls

- **Girls Exploring Physics, SFU**
  Grade 9 & 10 Outreach

- **GEERing Up! UBC Engineering & Science for Kids**
  Workshops and Camps, grades 2 - 10

- **IEEE WIE Affinity Group, Vancouver: STAR**
  High school outreach

- **UBC Department of Physics and Astronomy, Outreach Program**
  Workshops for grade 6-8
Professional Development Groups

- **Women in Science and Engineering (UBC Okanagan)**
  Workshops for Undergrad and Grad students

- **Women in Engineering, Vancouver Region**
  Networking and Professional Development post-graduation

- **The Society for Canadian Women in Science and Technology (SCWIST)**
  Workshops for students and professionals
Conferences and Collaboration

- **Canadian Undergraduate Math Conference**
  Dinner for women participants

- **BC Young Women in Physics Canada Conference**

- **Girl Guides of Canada – BC – SOAR 2011**
  Enviro-STEM
  Science activities at a province-wide camp

- **BC WIE and SFU WEG, Enhancing Collaboration Initiative**
  Networking and Workshops

- **SFU Women in Engineering Group (WEC) and SFU Women in Computing Science (WICS)**
  Networking events and company visits
Find us on LinkedIn, Facebook, and Twitter

Subscribe to **WWEST Networks Digest**
semi-monthly newsletter by emailing:

wwwest@mech.ubc.ca
“State of the Union”
Past and Present Statistics

Engineers Canada 1991-2009 Enrollment Report - Undergraduate

Year  | Females  | Males  | Total | % Female
--- | --- | --- | --- | ---
1991 | 5,979 | 3,500 | 9,479 | 16.1%
1995 | 7,541 | 5,000 | 12,541 | 18.8%
1999 | 9,217 | 6,500 | 15,717 | 20.6%
2003 | 10,423 | 7,000 | 17,423 | 19.2%
2007 | 9,622 | 7,500 | 17,122 | 17.3%
2009 | 10,268 | 8,000 | 18,268 | 17.4%
Percentage of Women and Men Currently Registered as Professional Engineers In BC

Male vs. Female Registered as EITs in BC, 1995 to 2011

- Female 93%
- Female 7%

Male vs. Female Registered as EITs in BC, 1995 to 2011

- Male 83%
- Female 17%
- Male 78%
- Female 22%
- Male 80%
- Female 20%
- Male 79%
- Female 21%
- Male 80%
- Female 20%

Percentage of Women and Men Currently Registered as Professional Engineers In BC

- Male 93%
- Female 7%
The “Leaky Pipe” Issue

- 55%+ of people on university campuses are **women**
- 48% of workforce

- 40% of scientists
- 37% managers
- 26% VP, Senior execs
- 14% Board
- 11% Engineers
- 2-3% CEO (Fortune 500)
Business Case for Women

• Access of employers to a broader talent pool
• Greater return on human resource investment
• Increased innovation potential and market development
• Stronger financial performance
• Improved governance
• Participation of women increases teamwork, professionalism, community engagement – and makes teams smarter
Living the adventure...
...and a bit of advice.
Leadership
Agility
Relationships
Performance

Values are the keywords that people turn to when they make decisions – therefore, they are critical to the entire direction and success of a person, a company, a government or any other entity.

Know what your Values are and use them to guide your career.
Great book by Gale Evans former Exec VP CNN
For women to be successful in Engineering, there needs to be successful women engineers.

Reach out, reach up and reach down.
10 Strategies for Success

• Follow your values. You can’t do everything—prioritize what matters.
• Stay positive. Always expect the best, but have a plan B.
• Be mentored, and have a support group.
• Value others, and communicate your own value. When complimented on great work, say “Thank You.”
• Keep your commitments – follow through.
• Build your network – know where to find knowledge.
• Practice leadership and public speaking
  – Volunteer in professional associations
  – Mentor juniors
• Be prepared to step up. Keep your resume ready. Know your strengths, and work on your challenges.
• Believe in yourself. Recognize your “personal imposter syndrome” and get over it 😊.
• Look after yourself.
Get Involved

Attend a seminar or volunteer!

- **DAWEG** [http://www.apeg.bc.ca/services/divisions/daweg/index.html](http://www.apeg.bc.ca/services/divisions/daweg/index.html)
  - **Mission**: “To promote, enhance and facilitate opportunities for women to succeed in engineering and geosciences”.

- **SCWIST** [http://www.scwist.com](http://www.scwist.com)
  - A non-profit association that promotes, encourages and empowers women and girls in science, engineering and technology.

- **WIE Vancouver** [http://www.wievr.ca/](http://www.wievr.ca/)
  - **Mission**: “To provide a diverse group of women in engineering with networking events and skills enhancement workshops in a welcoming environment and to continuously build and maintain a network of strong relationships among women in engineering in the Vancouver Region”.

- **CCWEST** [http://www.ccwestt.org/](http://www.ccwestt.org/)
  - “Promoting women in science, engineering, trades and technology, and celebrating their contributions to these fields”.

- **APEGBC** [http://www.apeg.bc.ca](http://www.apeg.bc.ca)
  - **Mission**: “To serve the public interest through the regulation of the practices of engineering and geosciences in British Columbia and, where consistent with this duty, promote the professions and protect the interests of members”.

- **BCIT WIE GROUP** [http://sites.google.com/site/bcitwiengineering/home](http://sites.google.com/site/bcitwiengineering/home)
  - **Purpose**: “To promote engineering careers for women at BCIT and in the industry in general, and to provide a support group for women who are in school for engineering. Through participating and organizing community events, promoting at high schools, and organizing a mentoring program, the club hopes to see an increase in female engineering enrollment in BCIT, especially in the Mechanical and Electrical engineering programs”.

Questions