a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

The University of British Columbia
Faculty of Applied Science
NSERC CWSE
Vancouver Campus
2054 - 6250 Applied Science Lane
Vancouver, BC Canada V6T 1Z4

Phone 604 822 6584
Fax 604 822 2403
wwest@mech.ubc.ca
www.wwest.mech.ubc.ca

FINAL REPORT

NSERC CHAIR FOR WOMEN IN SCIENCE AND ENGINEERING BC AND YUKON REGION | 2010-2015

NSERC CRSNG
Chair for Women in Science and Engineering BC and Yukon Region

Engineering

Lead Sponsors:

BC hydro FOR GENERATIONS

WorleyParsons resources & energy

Teck

Stantec

September 26, 2015

Dr. Ken Spencer

Henry F. Man

Chairholder Information:
Dr. Elizabeth Croft, Ph.D., P.Eng., FEC, FASME
NSERC Chair for Women in Science and Engineering (BC & Yukon Region)
Associate Dean, Education and Professional Development
UBC Faculty of Applied Science
5000 – 2332 Main Mall
Vancouver, BC
Canada V6T 1Z4

WWEST
Westcoast Women in Engineering, Science & Technology

EXECUTIVE SUMMARY

WWEST has created change.

Operating as Westcoast Women in Engineering, Science & Technology (WWEST), the 2010-2015 NSERC Chair for Women in Science and Engineering for the BC and Yukon Region, held by Dr. Elizabeth Croft at the University of British Columbia, changed the way people talk, act on, and measure gender diversity in science, technology, engineering and mathematics (STEM).

By changing the way we talk about STEM, we open the doors and invite women to pursue this change. Our story is one of a creative, engaging, and rewarding profession where people solve problems, design solutions, help local and global communities, and love what they do. With this story, UBC Engineering went from an annual intake of 19% women to 30% women.

By changing the way we talk about diversity in STEM, we motivate people to create change. We designed easy-to-read business cases for change, and backed them with facts and citations. Companies asked for copies, and referenced them. Non-profits entered co-branding distribution agreements. We changed the discourse from a women in STEM issue to a people in STEM issue.

WWEST transformed the way organizations act on encouraging diversity in STEM. We provided expertise, a hub, and a conduit for activity. Our WWEST Partners program engaged twenty non-profit and university-based organizations, leading to more collaborations, new and expanded programming, and a sustainable plan to support women in STEM at all levels. More than a funding program, WWEST Partners provided training workshops and a community of practice members could access.

We changed how women in STEM connected to, and stayed connected to, the network. In addition to newsletter, social media, and web communication on events, resources, and activities, the Creating Connections bi-annual conference became a permanent fixture in the BC/Yukon region, bringing 300 community members together to network, learn, engage, and activate change.

WWEST created lasting change in the UBC Engineering curriculum, changing when and how we talk about ethics, professionalism, and respect. We supported student leaders in evaluating events for inclusion, and in creating a new tradition and ceremony – the Iron Pin, a symbol for the adoption of their student-created Code of Ethics in their first few months of study in engineering.

By providing workshops, support, and a roadmap, WWEST changed how women in industry and academia act to advance their careers. Mentors, peer networks, and self-reflection tools led to a step-change in women Associate Professor's occupational self-efficacy, a proxy measure for persistence in their case for promotion to Professor.

WWEST set a new standard for rigorous assessment of measurable changes in attitudes and behaviours that result from our events and activities. We identified occupational self-efficacy as a strong proxy for persistence in ones' career, and selected a measure from the literature. This measure is now used for events across Canada. WWEST also created a novel measure for Awareness of the Benefits of Gender Diversity, a key construct in finding allies for change.

WWEST has created change – a transformation that is substantial, impactful and, with many colleagues carrying it forward, a permanent change to the STEM landscape.

NSERC CRSNG

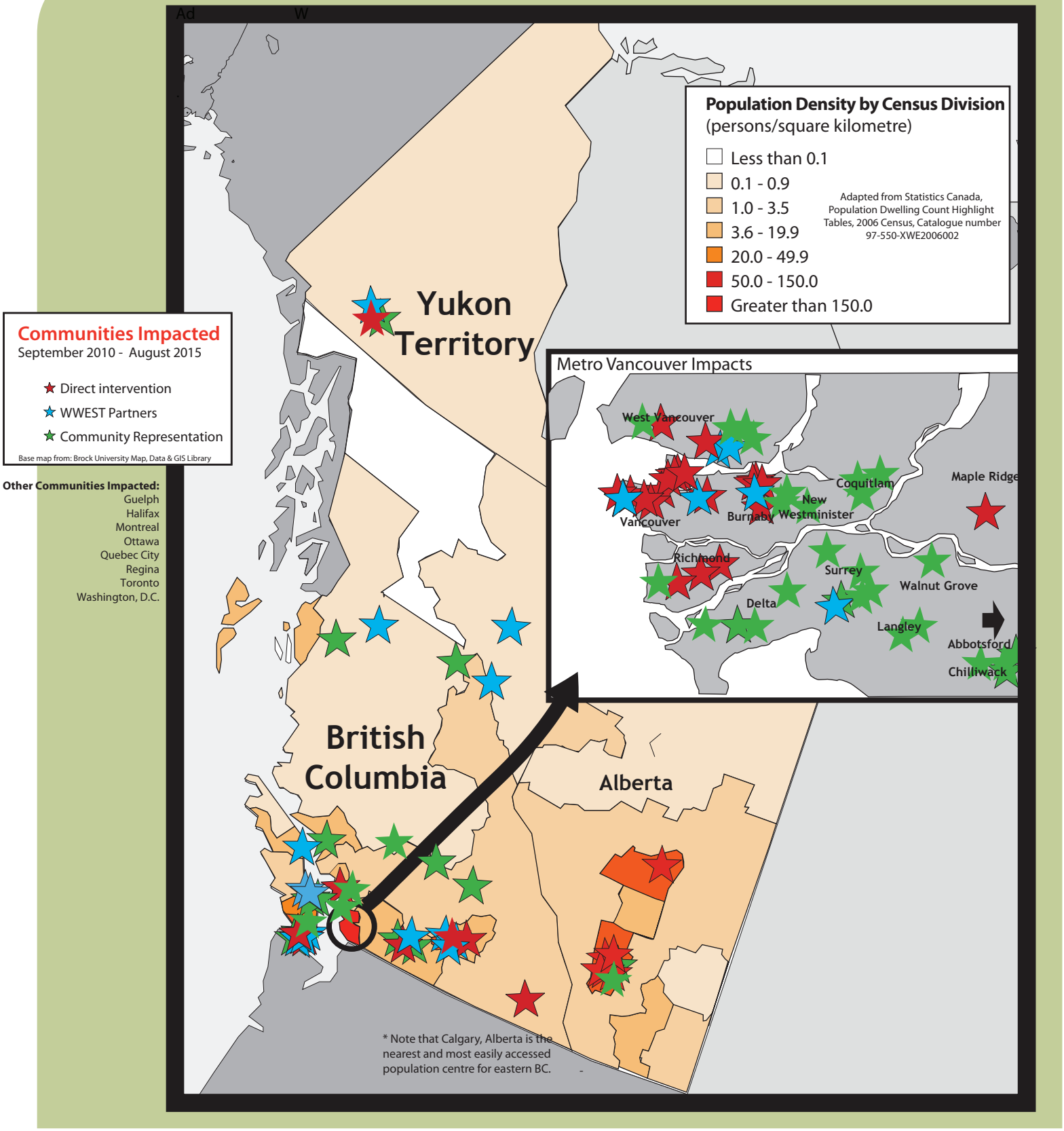
Chair for Women in Science and Engineering
BC and Yukon Region

WWEST

Westcoast Women in Engineering,
Science & Technology

Impact Map

September 2010 - August 2015



Original Objective:

AWARENESS AND OUTREACH: ESTABLISH AND BUILD A SUSTAINABLE WISE NETWORK

FEATURED SUCCESS: WWEST PARTNERS

Established in early 2011, the WWEST Partners program built a community of practice and provided financial and expertise resources that help community members to learn, share, and disseminate best practices and build towards the long-term sustainability of their respective programs. WWEST Partners brings together new and existing not-for-profit organizations from throughout British Columbia and the Yukon that have a focus on promoting women in STEM

The WWEST Partners program was designed to ensure sustainable funding model. The funding structure was based on the needs of each group, but most partners signed multi-year funding agreements, providing a reliable base of support on which to grow, with amounts that diminished over time, compelling partners to pursue other sources of funding before the WWEST Partners agreement was complete. Projects could apply for up to three years of seed, plus up to one year of additional funding for impact measurement and grant extensions.

As part of participation in this program, WWEST Partners are expected to collaborate and share best practices, participate in face-to-face networking opportunities for non-profit leaders, and attend targeted training workshops, including event management and measuring efficacy. WWEST Partners programs encompass all levels of outreach, and all areas of the region, providing broader, sustained, and community-based impact.

In addition to the outstanding impacts individual partners have produced (see Appendix 12), we have seen region-wide benefits. Twenty Partners who were previously separated by geographic constraints are now sharing resources and mentoring each other in program development, allowing new programs to flourish much more quickly. Groups that previously had relatively small regular audiences are working together to co-present events, broadening their impact. For example, two WWEST Partners that typically reached less than twenty participants each partnered with a group which had not previously offered women in STEM programming, selling out an evening talk with one hundred participants.

"Support from the WWEST Partners program allowed All-Girls Science programming in the Yukon to flourish. It was important for our program to have connection to the wider community. Thank you!"

- Heather Dundas, Coordinator, Science Adventures, Yukon College

LOOKING AHEAD

The 2015-2020 Chair will continue the WWEST Partners program, with plans to add an industry engagement component.

LEARN MORE

Please see the Impact Map, Appendix 11, and Appendix 12.

Recommendations and Best Practices

The BC and Yukon Region has a huge number of non-profit and institution-based groups that already had expertise, name recognition, contacts, and people passionate to help. It is more effective to support and grow their success than to start competing programs.

Multi-year funding agreements help organizations plan for long-term success and provide the stability needed to encourage other funders to invest in the project.

Organizations that are not affiliated with a university or are located outside of a major urban centre have additional barriers to success. Providing travel funding allows them to fully participate in WWEST Partners training and networking events, and ensures they feel supported.

Some communities, particularly outside of urban centres, have unique needs that require more support than a brief visit could provide. WWEST Partners allows the Chair objectives to be met utilizing local people and local resources. Investing in Partners invests in communities, organizations, and people, and ensures programs are sustainable year-round and beyond the end of the Chair.

During each application round, WWEST Partners submitted abstracts for potential projects. They discussed the abstracts with WWEST representatives at the fall training sessions, receiving feedback before submitting their final proposals. This helped less-experienced Partners improve their applications before they are sent to the review committee. It also helped WWEST to identify areas of overlap early, allowing us to suggest collaboration or coordination.

Recommendations and Best Practices

Original Objective:

AWARENESS AND OUTREACH: PROVIDE SUPPORTIVE NETWORKING OPPORTUNITIES

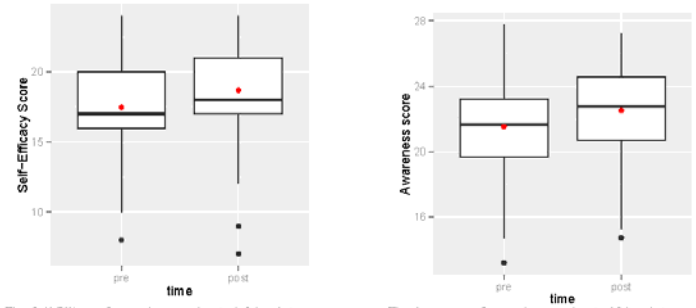
When creating a recurring event, create a strong brand that stays consistent each time you offer it. This allows you to maintain a strong core of attendees.

Where possible, offer events that occur annually or bi-annually at a consistent time of year so people remember to look for the event.

FEATURED SUCCESS: CREATING CONNECTIONS

Creating Connections (CC) is a bi-annual regional conference that brings people together from across the region to network, learn and advance strategy to improve gender diversity in STEM. Croft and Pelletier were involved in the founding conferences in 2007 and 2009; WWEST organized the 2011 and 2013 conferences, and supported the 2015 conference at SFU, launching the next NSERC BC/Yukon Chair.

CC 2013 brought together 300 people from across BC and the Yukon, through WWEST Partner outreach and supported by travel subsidies. The objectives for the conference were to increase awareness of the benefits of gender diversity in STEM, and to encourage women in STEM to persist in their career paths.



As shown on the boxplots to the left, two validated psychometric instruments were used to assess the change in participants' awareness of the benefits of gender diversity and their change in occupational self-efficacy (a proxy outcome to predict career persistence).

Participants in CC 2013 showed an immediate, statistically significant positive increase in their awareness of the benefits of gender diversity ($p<<0.001$), an immediate, statistically significant positive increase in their occupational self-efficacy ($p<<0.001$). The awareness effects were sustained at a six month interval ($p<0.05$). These results have been submitted to publication in the journal Career Development International.

Show change through pre- and post-measurement. Use validated measures to ensure your results are reliable, consistent, and can be attributed to the effect you are trying to quantify.

FEATURED SUCCESS: WORKSHOPS

Although travel subsidies assisted women from outside Metro Vancouver to attend CC conferences, we also travelled to communities to deliver over 100 workshops. Content included leadership development, effective measurement, mentorship, salary negotiation and the benefits of gender diversity in the workplace. These workshops were offered in centres across the region, including Whitehorse, Kelowna and Victoria.

Community-based workshops are most effective when a community host is involved. Having one or more host organizations select locations, timing, topics, registration procedures, and other key logistics helps ensure you are delivering content appropriate to the community.

LOOKING AHEAD

Creating Connections has become a key, anticipated event in the region. The 2017 conference will be held at Simon Fraser University.

The content of all workshops developed by WWEST has been shared with the 2015-2020 Chair and the NSERC CWSE Réseau National Network, with permission for reuse and adaptation.

LEARN MORE

Please see Appendix 4, Appendix 9, Appendix 12, and Appendix 13.

Original Objective:

AWARENESS AND OUTREACH: CHANGING COMMUNICATIONS

FEATURED SUCCESS: NEWSLETTER & SOCIAL MEDIA

When WWEST was established, the BC/Yukon region had a large number of women in STEM organizations and a strong body of leaders with varying levels of cross connection. It was immediately clear that one pressing need was for organization, coordination, and cross-marketing. A social media strategy was developed that was centered around highlighting the activities already taking place in the region, in addition to WWEST's own activities. Highlights from WWEST Partners and articles of interest were later added. Information is now pushed through 251 Facebook Likes (followers), 329 Twitter followers, a blog with RSS, 326 subscribers to our semi-monthly digest, and over 1000 impressions per month on our Pinterest account.

"As a consultant to the WinSETT Centre (Canadian Centre for Women in Science, Engineering, Trades and Technology), I have found the newsletters from WWEST to be very informative. It has been good to read of activities in BC, of the work of NSERC Chairs for Women in Science and Engineering, and especially to be pointed to articles and research on the attraction, participation, retention and leadership of women in SETT fields. Thank you for your excellent product." -Carolyn J. Emerson

FEATURED SUCCESS: BEING MEDIA-FRIENDLY

Dr. Elizabeth Croft is an expert in a variety of topics—from robotics research to encouraging girls to STEM to equity in STEM fields-- and she frequently comments in the news, generously sharing her time and knowledge. WWEST, Dr. Croft, and WWEST Faculty Associate Dr. Sheryl Staub-French were featured in 83 media articles and videos, in publications such as *The New York Times, The Economist,* and *The Globe and Mail*.

During her time as Chairholder, Dr. Croft has won three awards, including WXN Top 100 Most Powerful Women in Canada, and was featured at UBC Board of Governors meeting. WWEST Manager Jennifer Pelletier has won three awards, and Dr. Sheryl Staub-French, the newly established Goldcorp Professor for Women in Engineering, has won one. WWEST has submitted 11 successful award nominations for women in STEM, from student leaders to senior industry workers. Additional nominations are under consideration.

LOOKING AHEAD

The WWEST newsletter and social media feeds will be taken over by the 2015-2020 Chair. WWEST 2010-2015 staff person Robyn Choi has been hired by the WWEST 2015-2020 team to ensure a smooth transition.

LEARN MORE

Please see Appendix 7 and Appendix 8.

Recommendations and Best Practices

A strong, consistent visual identity is important for building an audience. Maintaining branding over time and future Chairs will allow WWEST to retain its audience and increase its impact.

Curating content in social media is important. Pushing too much content can reduce your ranking in display algorithms (such as the Facebook feed).

Many of the CWSE programs use social media. Liking, promoting, or sharing the content of the other programs enhances all of the programs content, and increases our audiences.

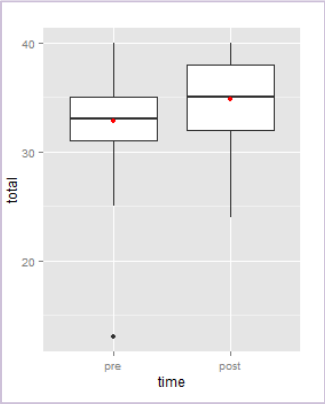
A key contributor to media coverage is being available to the media. Working with the University's Public Affairs unit ensured that they knew what Dr. Croft could speak to, and how to get in touch with her quickly. Interviews often need to be set up for the same day.

Work with other groups to coordinate nominations for awards. The strongest candidates are supported by many groups.

Having overlap between the 2010-2015 and 2015-2020 Chair allows for a strong transition, cross-training, and support.

Recommendations and Best Practices

Engineering Explorations was an outreach event, not a recruitment event – our goal was to encourage girls to consider a career in engineering in a pressure-free environment.



Working with a school district is an excellent way to include students who may not have attended a university-based event. Finding a teacher co-host is essential in making this work.

When teachers bring curriculum materials back to their classrooms, you are reaching 25 or more kids for every teacher – many more if they share the kits at their schools. Providing supplies not only ensures the teachers can do the activities, it also helps communicate your respect for and understanding of their work and expertise.

Original Objective:

RECRUITMENT: DEVELOP A COMPREHENSIVE STRATEGY FOR ENGINEERING RECRUITMENT

FEATURED SUCCESS: ENGINEERING EXPLORATIONS

Engineering Explorations is a series of day-long outreach events for women high school students, allowing them to explore and consider engineering as a viable and rewarding career through hands-on design challenges, student- and alumni-led activities, lab tours and demonstrations, and mentorship from current women engineering students and industry professionals. These events are aimed to support the recruitment and retention of women in STEM, organized by WWEST in partnership with UBC Engineering and eng-cite:

Engineering Explorations 10 (formerly Engineering Power Up!) 2013-2015, 210 participants

The 2015 event introduced a psychometric analysis of the students' self-efficacy pre- and post-event, with a +1.99 increase on a scale out of 40 ($p << 0.001$, see boxplot on the left).

"It was a very interesting experience for me as I got to see cool labs. I also got to meet people that work/study in the fields that I am interested in. This event gave me an idea of what my dream career looks like and what I need to do to pursue it." - Grade 10 Participant

Engineering Explorations 9: Go ENG Girl 2014, 90 participants

This event originated in Ontario, and was brought to UBC Vancouver with the support of the Ontario Network of Women in Engineering (ONWiE) for the first time in fall 2014.

Engineering Explorations 8: Introduce a Girl to Engineering Day 2013-2015
Steveston-London Secondary School, Richmond, 190 total participants

Run in conjunction with School District 38, consisting of a keynote speech and three hands-on, engineering student- and alumni-led activities that exposed a broad range of engineering jobs.

FEATURED SUCCESS: TEACHER'S CONFERENCE

Held in 2010 and 2014 at UBC Vancouver, with a total of 196 teachers, Engineering in Your Classroom led grade 6/7 teachers through three engineering-related activities that were easy to implement, affordable, and fit within the new BC Curriculum. The workshop also discussed how they can be used to encourage and foster critical inquiry and thoughtful reflection by students about the role of STEM in society. A short keynote address emphasizes the role of a teacher in a student's decision to pursue a future in STEM and how an understanding of how STEM serves our society can be particularly encouraging to women who are considering a STEM career. Each teacher who attended received a classroom kit of all the materials needed to run the activities.

"It was the best pro-D I've been to. Fun, interesting, resources, food, interaction with professors and students. Awesome!" - Teacher Participant (anonymous feedback)

LOOKING AHEAD

Recognizing the strong impact that Dr. Croft's efforts through WWEST has made on gender diversity in STEM in BC/Yukon, particularly around supporting women in engineering, Goldcorp has donated $500,000 to UBC Applied Science to ensure outreach efforts to bring more young women into engineering continue beyond the Chair. Plans are underway for Engineering Explorations 2015/2016 at UBC Vancouver and other locations in BC.

LEARN MORE

Visit the Goldcorp Professorship's website, www.engcite.ca

Original Objective:

RECRUITMENT: EVOLVE CURRICULUM AND UTILIZE COMMUNITY SERVICE LEARNING

FEATURED SUCCESS: GLOBAL ENGINEERING LEADERSHIP

Dr. Croft served on the Faculty of Applied Science Community Service Learning (CSL) working committee since its inception in 2009 until 2012 and continues to support CSL activities as Associate Dean, Education and Professional Development. CSL is now a core component the second year Mechanical Engineering Program, in third- and fourth-year mechanical engineering courses, and courses in Chemical and Biological Engineering and Civil Engineering. Dr. Croft also developed a set of two CSL Global Engineering Leadership courses that are taken as electives by senior students. Since the start of the Chair, more than triple the number of engineering students participate in CSL. We have also seen a marked increase of women students entering Mechanical Engineering – with traditionally very low enrollment of women, up to 29% from a pre-chair average of about 13%.

FEATURED SUCCESS: IRON PIN AND FIRST YEAR CURRICULUM RENEWAL

The UBC Engineering Inclusion Initiative was launched in the spring of 2014, capitalizing on the culture changes started by WWEST and catalyzed by Dr. Croft and student leaders who have worked with WWEST. This project is making recommendations for and concrete changes to curriculum, faculty awareness, and student life to ensure an inclusive and supportive environment for all students.

In addition to working with the Engineering Inclusion Initiative, the Engineering Undergraduate Society (EUS) at UBC Vancouver approached WWEST for assistance in evaluating their historical events and activities for diversity, inclusion, and other measures. Supported by the Faculty and in conjunction with Jennifer Pelletier, the EUS created the Iron Pin ceremony to address a concern about the lack of early education on Engineering Ethics. Adapting the APEGBC Code of Ethics, the Iron Pin ceremony involves engineering students, staff and faculty accepting the UBC Engineering Code of Ethics. In 2014 over 2300 students, faculty and staff took part in the ceremonies. At least two other universities has scheduled an iron pin ceremony for fall 2015, and other universities are currently considering adaptations.

Championed by Dr. Croft and supported by the success of community-based experiential learning pilots in upper year classes, UBC Vancouver is also re-evaluating the first year curriculum to focus on the integration of design, problem-solving, and social contexts – aspects of engineering that are particularly attractive to female students. In addition, specific modules are being added about ethics and inclusion, with a series of mentor-videos designed to provide role models and reduce stereotype threat. Showcasing diversity is a key criteria in mentor selection.

LOOKING AHEAD

All of the pilots described above have become a permanent part of the curriculum and culture at UBC.

Recommendations and Best Practices

Providing a community service learning opportunity can be administratively-demanding, but can create one of the richest learning experiences available at the university. Reflection sessions with appropriate support are a critical part of the CSL experience.

Look for media opportunities both around the university and around the communities students are serving in. Highlighting unique opportunities to serve can motivate young people to consider a career in STEM who otherwise would not look into the fields.

Featuring CSL opportunities in outreach and recruitment literature can also help change perceptions .

Student-driven initiatives can create the biggest culture changes in a short time period. Developing strong relationships with student leaders allows the possibility for this type of change.

Making curriculum changes is one of the most enduring ways to secure change. Changing from systemic barriers to systemic inclusion is challenging, but curriculum can be a key tool in the change.

Recommendations and Best Practices

Supporting women in the workplace is not about making policies for women – it is about making good people policies.

Showing that issues affecting women also affect other employee groups can add additional arguments to create a stronger business case for action.

For example, a preliminary study showed that highly masculine cultures were detrimental to both men and women, with men experiencing more health symptoms (Hall, Schmader, & Croft (2013). "Engineering Equality," Society for Personality and Social Psychology Annual Meeting).

With regards to work-life balance, surveys of millennials reveal expectations for benefits similar to those women in STEM groups are advocating for. (PriceWaterhouseCoopers (2011), "Millennials at work").

Most companies want to improve their employees' workplace experiences. How? EES is finding answers. Some good places to start:

- *Use inclusive imagery and pronouns in corporate communication.*
- *Provide training on unconscious (implicit) biases. There are many online resources, including Project Implicit from Harvard and webinars from Facebook.*
- *Before reviewing resumes for new hires, anonymize them, removing names and gender-identifiers.*
- *Provide copies of Gender Diversity 101 papers (Appendix 10) to your teams.*

Original Objective:

RETENTION: EXAMINE INDUSTRY WORKPLACE EXPERIENCES AND BEST PRACTICES

FEATURED SUCCESS: ENGENDERING ENGINEERING SUCCESS

Engendering Engineering Success (EES) aims to identify which organizational practices best predict an inclusive and supportive workplace culture that maximizes organizational commitment and productivity for both men and women. Bringing together non-profits, academe from several disciplines, and industry, Engendering Engineering Success is a Social Sciences and Humanities Research Council of Canada Partnership Development Grant, which significantly extends our ability to analyze workplaces and communicate best practices to industry. The grant is worth $193,372, combined with industry support of $112,060, for a total of $305,432 in funding.

Dr. Croft is the Principal Investigator of the grant. Co-Principal Investigators are Dr. Michelle Inness, University of Alberta School of Business; Dr. Toni Schmader, University of British Columbia Department of Psychology and Canada Research Chair in Social Psychology; and Dr. Valerie Davidson, University of Guelph Professor Emerita School of Engineering. Our work is supported by: Engineers Canada, CWSE National Network, Canadian Centre for Women in Science, Engineering Trades and Technology, Mining Industry Human Resources Council, Enbridge Pipelines Inc., WorleyParsons Canada. Over thirty additional industry partners are corporate participants in the studies, but cannot be named due to research ethics provisions.

EES builds on previous collaborative research on Health and Well-being in the Workplace with Professor Toni Schmader, Canada Research Chair in Social Psychology, investigating ways in which workplace social interaction contributes to the health and career satisfaction of professional engineers, especially women. Findings indicate that negative interpersonal experiences, such as workplace exclusion, may be significant predictors of physical and mental health, even after controlling for fitness and lifestyle factors. Moreover, negative experiences may affect women differently than men, possibly reducing commitment to remain in the same job. These were published in the journal of Social Psychological and Personality Science in 2015.

LOOKING AHEAD

The EES grant extends beyond the CWSE (BC/Yukon) and work will continue through it. There are plans to continue to a full Partnership Grant application.

LEARN MORE

www.wwest.ca/ees

EES is actively recruiting companies to participate in this study until December 2015. Please contact ees.research@mech.ubc.ca if you would like to participate.

Original Objective:

RETENTION: EXAMINE ACADEMIC WORKPLACE EXPERIENCES AND BEST PRACTICES

Recommendations and Best Practices

FEATURED SUCCESS: UBC CLIMATE STUDY

In 2012/2013, the UBC Faculties of Applied Science and Science (Vancouver campus) jointly assessed the working climate and status of equity and diversity for their faculty members in the Science and Engineering departments and affiliated major research centres. Dr. Croft co-led this study with the Associate Dean of Faculty Affairs in Faculty of Science.

Climate studies can identify gaps and best practices, and they can also create baselines for future activities. Examining climate on a regular basis allows you to identify areas of progress and areas of regular concern.

The overall goal of this study was to identify potential gaps and best practices and to develop recommendations for the Faculties' efforts to advance equity, diversity and working climate for faculty, in alignment with UBC's employment equity and respectful working environment goals. Six main findings were identified, including that "averaged over the current cohort and adjusted for leaves, women engineering faculty achieve tenure more than one half year later than men faculty. As well, on average women faculty remain in the associate professor rank prior to promotion over two years longer than men faculty."

This study was financially supported by the Deans of Science and Applied Science at UBC as well as the UBC Equity Enhancement Fund. Dr. Croft also co-chaired the UBC Applied Science Working Climate and Equity Committee, charged by the Dean with preparing the survey and developing an action plan to address the findings of this study.

FEATURED SUCCESS: PROMOTION TO PROFESSOR

Specialized workshops like Promotion to Professor have a limited audience if you constrain eligibility to one region. By rotating national workshops across the country, the National Network of Chairs for Women in Science and Engineering maximizes opportunity while still providing regional programming.

Promotion to Professor was a national, three-day event for women Associate Professors in science and engineering who are working towards promotion to the rank of Professor. Two optional activities were also made available to enhance the participant experience. Sixteen participants attended from BC, Quebec, Ontario and Alberta, from both engineering and science faculties.

The full day workshop took place on May 20th from 8am to 5pm. It included workshops and panels from 10 senior academics and administrators from UBC, Harvey Mudd College, and the University of Guelph, reflection activities, and group discussions.

Workshop and panel topics included:

- Researching and Understanding the Criteria for Full Professorship
- Managing your Research Reputation and Getting Recognition
- Service, Administrative Duties and Teaching
- Work-Life Effectiveness
- Negotiating Workload
- How to Deal with Politics
- Creating a Plan: The Package, the Letter and Timing
- Burning Questions Panel

No promotion case is the same, so having many presenters with many perspectives at an event like Promotion to Professor ensures participants get a fuller, broader understanding.

In addition, participants were invited to an evening reception on May 19th, 2015 to network with each other, senior peers, and UBC administrators. On May 21st, participants met individually with CV mentors (women full professors at UBC) to receive individual coaching.

LOOKING AHEAD

The UBC Applied Science Working Climate and Equity Committee will continue its work. A detailed report on the Promotion to Professor workshop has been provided to the National Network of Chairs for Women in Science and Engineering, including copies of materials.

Recommendations and Best Practices

Original Objective:

RETENTION: DISSEMINATE BEST PRACTICES

FEATURED SUCCESS: GENDER DIVERSITY 101

Cited claims are always considered more credible, even when no one checks the citations. In addition to documents like our infographics, consider adding citations to the notes for presentations.

When interacting with business leaders and professionals, it was evident that clear, concise fact sheets backed up with full citations would lend much more credibility to our efforts. Seven topics have been created to date: Unconscious Bias, Mentoring Works, Stereotype Threat, The Business Case for Gender Diversity, Gendered Language, Stereotype Awareness for Hiring Committees, Understanding Workplace Diversity, and What is Engineering?

The infographics were released to strong reception, and we have excellent feedback from industry, regulatory organizations, and non-profits. Over 2000 copies of the fact sheets have been distributed to date.

Careful use of a strong brand adds credibility to documents like these. Co-branding opportunities lend the weight of multiple brands to the product, and benefit both organizations.

A co-branding initiative was started to provide aligned organizations an opportunity to sharing the infographic content.

Confirmed co-branding partners include: UBC Engineering, the Engineering Leadership Council (professional group), eng-cite, APEGBC (limited topics), Society for Canadian Women in Science and Technology, WISEAtlantic (CWSE Atlantic), and the Ontario Network of Women in Engineering. A distribution agreement, without co-branding, has also been set with the Mining Industry Human Resources Council.

It is ideal when a document can comprehensively answer a question, but not provide too much excess information. Each infographic was kept focused to maximize impact.

"When SCWIST was invited to speak to the House of Commons Standing Committee on the Status of Women in April 2015, the development of our messaging started with the white papers that have been developed by WWEST. These papers gave us validated statements that were easy to quote on important topics such as Unconscious Bias, Stereotype Threat, and the Business Case for Gender Diversity. In preparation for the question and answer portion of the appearance before the Committee, we took little more than these white papers as they had any additional facts we may require and the sources were easily quoted on the fly as well. Thanks to these resources, SCWIST was heavily quoted in the Committee's final report on Women in Skilled Trades and Science, Technology, Engineering and Mathematics Occupations."

- Danniele Livengood, Secretary
Society for Canadian Women In Science and Technology (SCWIST)

Making all publications available for free, at least in electronic form, encourages people and organizations to refer to them and share them with their networks, improving dissemination.

LOOKING AHEAD

Co-branding agreements are in perpetuity – partners have the ability to continue to distribute, print, use, and promote the fact sheets after the end of the CWSE (BC/Yukon).

The gender diversity 101 publications will also be packaged in a self-published book, and distributed to libraries, post-secondary institutions, and industry groups. In addition, the NSERC CWSE for Quebec will be translating the materials into French.

WWEST strongly recommends keeping our Gender Diversity 101 infographics handy at your desk, on your laptop, and in your briefcase. Consider carrying an extra copy to share!

The Engendering Engineering Success research project will also be adopting this model of knowledge dissemination, by creating similar fact sheets.

LEARN MORE

Please see Appendix 10.

NSERC CRSNG

Chair for Women in Science and Engineering
BC and Yukon Region

WWEST Westcoast Women in Engineering, Science & Technology

Impact Update

September 2010 - August 2015

sharing proven practices

13 committees

17 publications
(academic & mainstream)

reaching out

over
3000 youth and parents
6800 post-secondary students
3100 industry professionals
2100 academics
280 teachers
70 academe decision-makers

15,600 direct interactions

plus thousands more through WWEST Partners

shining a spotlight

164 lectures, panels, courses, & workshops

83 **mainstream media**
features and interviews

building momentum

Beyond the original NSERC & Matching grants:

1 major grant received

Over 750,000 dollars leveraged

as a direct result of the Chair program

building networks

11 companies

82 organizations

Sum of connections actively maintained

wide online engagement

250+ likes

our most popular post reached **2994** people, resulting in **198** clickthroughs

325+ followers
930+ tweets

205 of our tweets were retweeted 292 times

over 10,000 unique web views

over 23,000 newsletters delivered

65 avg. impressions/day
1430 avg. viewers/month

In August 2015 alone, our "Inspirational women in STEM" board resulted in 1134 impressions