



Concurrent Presentations

Theme:
Culture Transformation

“The Missing Link”: The Role and Use of Sustainability Themes to Increase Gender Diversity in Engineering

Presenter

Amy Hsiao, UPEI Faculty of Sustainable Design Engineering

There has been increasing awareness that diversity and its proper management can yield strategic and competitive advantages in the business world. Research has shown that organizations with more gender-diverse management teams have better financial, ethical, and operational performance. Despite the benefits, women continue to be under-represented in Engineering, even though it encompasses many of the largest industries in the world, including those that are responding to the urgent call for sustainable development. Although engineering is a prominent field, in Canada, as of 2017, women accounted for only 17.1 percent of the country’s total population of registered professional engineers. Research has also shown that women are drawn to careers that focus on sustainable applications, e.g. those that benefit community, the environment, societal well-being, and the economy. It is proposed that the various facets of sustainability increase gender diversity and facilitates an educational experience that enhances and promotes not only design, innovation, and creativity, but a sustainability mindset in Engineering. In addition, diversity and intersectionality result in engineers who are global citizens in addition to being problem solvers and critical thinkers. The engineering graduate of the future and the nature of engineering education will be transformed as a result. This proposed panel discussion will analyse the role and use of sustainability themes as drivers for increasing gender diversity in engineering in an academic setting, as observed through Grades 7-12 outreach, undergraduate education, graduate research and training, and technology transfer.

APEGA's 2018-2021 WAGE (Women and Gender Equality Canada) Sponsored Research on the Barriers Women face in the Engineering and Geoscience Workplace in Alberta

Presenter

Mohamed El Daly, APEGA

This presentation shares the research findings and final recommendations from three years of work (2018-2021) by APEGA's EDI team on the barriers that women face in the Engineering and Geoscience workplace in Alberta. The research included an online survey of professional members, follow-up focus groups, detailed analysis of women's labour market participation in the Engineering and Geoscience industries in Alberta, as well as an historic pay equity analysis of 5 years (2014-2018) of APEGA's voluntary salary survey data. Generally, the results show that men and women experience very different worlds at work; with the top-mentioned barriers to workplace inclusion for women being the traditionally masculine work environment, issues with career development and advancement, bias, discrimination, and harassment, and issues related to maternity/parental leave, among other reasons. We present recommendations and action items that individuals, leaders, and organizations can take to remove the barriers that women experience and shift the Engineering and Geoscience workplace to a more inclusive one. Through the adoption of these behaviour and policy changes, our industries will not only become more welcoming to women, but more inclusive for members of many different traditionally underrepresented identity groups.

Building a Sexual Harassment Free Workplace for Women in Electricity

Presenter

Anita Gara, Electricity Human Resources Canada (EHRC)

According to the 2018 update of Canada's Center for Gender, Diversity and Inclusion Statistics, 60 percent of survey participants reported having experienced harassment in the workplace and 30 percent said they had experienced sexual harassment. As a male-dominated industry, women in electricity occupations across Canada are at higher risk to be sexually harassed in the workplace. EHRC, building on its strong relationships with employers across Canada, aims to foster a constructive dialogue and increase awareness about sexual harassment in the workplace. EHRC will do this through the development of an educational outreach program to inform employers about sexual harassment, including strategies to address and prevent it. The program will remind employers and employees of laws, responsibilities, and rights to actively to prevent sexual harassment and respond to complaints appropriately. The program will be supported by a set of educational tools fostering a respectful and harassment-free work environment. This session will speak to the project preliminary findings as well as the project itself and how conference participants may want to be involved. Learning Outcomes: 1. Gain familiarity with EHRC's Building a Sexual Harassment Free Workplace for Women in Electricity project, and how stakeholders can get involved 2. Understanding the critical components of an a physically and emotionally safe work environment built on trust, collaboration, healing, and recovery to support the well-being of employees by preventing practices and behaviours that may inadvertently re-traumatize 3. Evidence of how awareness and knowledge of sexual harassment in the electricity sector workplace prevents sexual harassment, shift mindsets, and shape attitudes

Building DEI Culture Without Getting Overwhelmed

Presenters

Victoria Fernandez, CBCL Limited

Amy Winchester, CBCL Limited

Consulting engineering is both an engaging and demanding profession. We juggle several projects at once, trying to deliver high quality projects efficiently and within a set period of time. The challenges of such a high pressure environment can become great opportunities within a corporate culture that enables innovation by celebrating differences and nurturing authenticity. This is fundamental to allow each individual to thrive unconditionally.

Two years ago, a couple of employees saw a need for a more formal approach to diversity, equity, and inclusion (DEI). They did some research and prepared a presentation for senior management with the benefits of an employee-led DEI program to our culture and overall health of the organization. The presentation was very well received and inspired the creation of a committee focused on all things related to DEI. The Inclusion, Diversity, Equity, Advice and Support (IDEAS) group has been flourishing since it began and has taken on a life of its own!

At CBCL we believed that an employee driven advisory committee for diversity and inclusion was critical for reaching these goals and this presentation will discuss the challenges and opportunities associated with this initiative and the successes and lessons learned for the last two years.

Creative Collaborations for a Future in the Presence of Disruptions

Presenters

Laleh Behjat, Schulich School of Engineering

Stacia McCoy, WISE Planet

Jennifer van Zelm, WISE Planet

Lorena Solis, WISE Planet

Matthew Bardsley, Schulich School of Engineering

Artificial intelligence and biotechnology will bring new innovations to the world, while disrupting the way we do things today. The purpose of this workshop is to understand how these disruptive technologies can impact the future and how to implement strategies to chart positive outcomes for underrepresented groups in this unknown future. The workshop will start with a discussion of artificial intelligence, biotechnology, climate action, and media and communications as disrupting technologies. Then, it will discuss how we can design strategies and plan scenarios with these disruptions in mind. In addition, participants will learn how to apply regenerative design techniques to create sustainable, holistic strategies. This part of the session will be approximately 20 minutes. Next, using 'child and compassion care' as a topic, participants will take part in exercises to practice generating relevant, desirable scenarios for the future. The exercises include individual brainstorming (after reducing stress), working in small groups to build on proposals, and a technique called 'Pataphysics to turbocharge creativity. This interactive portion will take approximately 45 minutes. The session will end with a debriefing of the material discussed, including suggestions for future work and a question and answer period. This part will be approximately 10 minutes.

Diversity and Inclusion at Transport Canada

Presenters

Andrea Watts (panel moderator), Regional Engineer, Aircraft Certification, Transport Canada

Shari Currie, Regional Director General, Prairie Northern Region, Transport Canada

Rumbi Mvingi, Regional Engineer, Aircraft Certification, Transport Canada

Robin Brulotte, Flight Test Engineer, National Aircraft Certification, Transport Canada

Through the varying personal and professional experiences of the panelists, we will explore the meaning of Diversity and Inclusion to the individual panelists and to the larger organization of Transport Canada. From a candid perspective, we will discuss initiatives that have worked and those that have fallen flat. Given the varying experiences and experience levels of the panelists, we will explore the present initiatives and how diversity intersects with their positions at Transport Canada. Taking a look to the future, we will explore the future of diversity and inclusion in the workplace. What is the future of diversity and inclusion as we move into a post-pandemic workplace? How does our current construct of diversity and inclusion need to change as we face long-term hybrid and remote work? Finally, the panelist will share some best practices and practical strategies that we can implement in our circles of influence (be they small or large).

FEMINEN - Employees Standing Up for Inclusion and Driving Change Through Storytelling, Mentorship, and Intersectionality

Presenters

Kevin Tsang, Enbridge

Edie Bates, Enbridge

Lia Squires, Enbridge

Tina Uribe, Enbridge

Founded in 2012 the Enbridge FEMINEN Employee Resource Group (ERG) supports females and their allies in science, technology, engineering, and math (STEM) careers by facilitating opportunities for members to network, develop and learn from each other. Key members of the FEMINEN leadership team will share some of our challenges and triumphs in the growth and evolution of this ERG across multiple chapters in North America. We will highlight many of our successful programs including our Inclusive Storytelling Platform where employees bravely shared their authentic experiences in front of large audiences and had courageous conversations with senior leadership as we Stand Up for Inclusion. You will also hear about our Engineering Futures Program and how mentoring Indigenous youth has increased cultural awareness, sparked interest in STEM and increased graduation rates. FEMINEN is leading cultural transformation in diversity and inclusion as we break down barriers, celebrate our differences, and embrace allyship. Join us to hear more about our rewarding journey.

Scientific expertise and women in STEM

Presenter

Audrey Groleau, Université du Québec à Trois-Rivières

Researchers in science studies have given a lot of thought to scientific expertise, to the point where some have organized the field into three waves, distinguished by the way in which scientific expertise is conceived. This work – and some work carried on in science education – allowed to build models to better understand scientific expertise and its development (e.g., Collins and Evans's periodic table of expertise), strategies used to undermine or enhance a person's expertise (e.g., Jasanoff's game board of expertise) and the relations a person can have with scientific experts (e.g., Groleau and Pouliot's model of relationships to scientific experts). During this communication, I will present the concept of scientific expertise, a few of those models and ways to use them to analyze various aspects of the situation of women in STEM.

Ranking of Factors Affecting Workplace Equity, Diversity and Inclusion (EDI) for Decision Making

Presenter

Denise Stilling, University of Regina

Research has shown that having an equitable and inclusive culture promotes diversity and drives personal development and professional growth resulting in successful workplaces. Factors affecting EDI concerns have been identified in many studies, both qualitatively and quantitatively. The latter, typically, involves statistical analysis of the responses reported as percentages with/without correlations to participant demographics in science, engineering, technology and/or the trades. However, studies relating the significance of these factors for driving decision to address workplace concerns were not been found. This research examines survey data to rank literature-identified factors using Analytic Hierarchy Process (AHP) and Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS). Surveyed participants compare both psychological and environmental factors by assigning a level of importance. The opportunity to provide anecdotal EDI-related situations with strategies and outcomes were also collected and summarized to assess techniques for improving EDI. During the presentation, session attendees may engage in a safe, anonymized environment to further efforts in achieving EDI in the workplace. Interactive responses will involve real-time data analytics. Some of the factors examine inclusion/isolation feelings, personal self-confidence, influential role models, promotional possibilities, collaborative and advisory activities, mentorship and/or ally-ship programs, workplace policies and practise relating to EDI, and others. This presentation reviews and compares survey data and encourages engagement on today's EDI challenges. To conclude, using decision making tools; such as, AHP and TOPSIS provides an objective way to assess the most influential factors for directing action for multi-criteria decision analysis methods.

ReaCHER

Presenters

Pamela Flynn, Electricity Human Resources Canada

Emily Griffiths, Electricity Human Resources Canada

EHRC is an industry leader in promoting and fostering change and growth across the sector. Over the last two years we have seen the COVID-19 pandemic drastically impact women's representation in an already male-dominated sphere. Coined a she-cession, the pandemic has further highlighted and intensified the need to address the issues of systemic gender roles and imbalances that result in male-dominated spaces. We know that caregiving and the unpaid labour of family responsibilities fall primarily on women. This impacts their capacity to participate in the public sphere under its current conditions and employment expectations. We will be sharing learnings from our project ReaCHER, a pilot program designed to support women and caregivers who are returning to the workforce after an extended time away from the labour force. We have designed a toolkit that consists of recommendations to both employers and their HR policies for how they can better adapt to the needs of individuals who take on primary caregiver roles, including how best to engage with those returning to work after a period of absence. The program has looked for ways to retain women who are trying to re-enter the workforce. With the great resignation on its way, we have developed tools for employers to better meet the needs of their employees; whether with continuous learning paths, development opportunities and networking, skills development, flexible work schedules, or childcare supports.

Revitalizing the WinSETT Checklist of Strategies for Women in SETT

Presente

Lori Campbell, WinSETT

In 2008, WinSETT published the Checklist of Strategies through the Women in Science, Engineering, Trades and Technology/Femmes en sciences, genie, métiers et technologies (WinSETT) Femmes en SGM(T) project. The checklist was designed to be utilized by organizations to assess and articulate organizational barriers that hinder women's full participation in SETT and to provide direction on the development of progressive policies and procedures. Although other checklists have been developed over time, the WinSETT Checklist remains focused on advancing the objectives of women in STEM. Organizational assessment of an organization's equity and inclusion current state broadly and those policies and procedures that impact women's experience, more specifically is a critical first step in developing and implementing EDI strategy. Since 2008, WinSETT and their community, through implementation and feedback on the Checklist, has gathered a considerable amount of knowledge and expertise in understanding how these assessment lead to more progressive organizations. Through the generous support of WAGE, (add project title here) WinSETT has undertaken a revitalization of the Checklist to ensure its resonance, relevance and utility in the changing workplaces over the last 13 years for women and to continue to foreground those aspects of organizational life that are key to the overall objectives of supporting STEM women. In this session, Dr. Lori Campbell, will present results of this revitalization project, focusing on aspects of the Checklist that continue to advance the original goals of raising

SCWIST Make DIVERSITY Possible: Tools to embed EDI into organizations including policies, toolkits, success stories and collective impact – to transform SETT workplaces into equitable, diverse and inclusive cultures where everyone can thrive.

Presenters

Cheryl Kristiansen, SCWIST

Anja Lanz, SCWIST

SCWIST Make DIVERSITY Possible workshop will engage, advance & inspire participants to reach for the stars to collaboratively create positive impact in SETT workplaces across Canada. SCWIST will share results from its 3-yr WAGE funded project including Diversity Awareness Tool, Diversity by Design Workshop, and Road Map to Success. Our test partners include several engineering consulting firms with extensive field work including trades, a software technology company, a large life science research funding organization, entrepreneurship incubator at academic institute & sample group from SETT individuals. The workshop will encourage collaboration, alliance building and collective advocacy as part of the SCALE and STEM Forward projects to advance gender equality across Canada. Workshop resources will attract & support industry professionals, individuals working in SETT in all career stages, gender equality advocates, senior leaders, organizations, associations, and government agencies that work to advance EDI in SETT. •ENGAGE: Diversity Awareness Tool creates awareness of bias, barriers to diversity & commitment to inclusive leadership. Tools engage men as allies & organizations in collaborative alliances. •ADVANCE: Diversity by Design Workshop engages employees and leaders to develop solutions, create inclusive cultures & advance women in leadership with the support of allies, mentors & sponsors. •INSPIRE: Success stories from SETT test partners. Lessons from global EDI partners. Create a Road Map to Success to elevate everyone to drive change. We will share resources, policies, toolkits, organizational results and examples of collective impact – to transform SETT workplaces into equitable, diverse and inclusive cultures where everyone can thrive.

Sector Wide Approach to Cultural Transformation on D&I

Presenter

Kelly Cooper, Centre for Social Intelligence

Engaging the leadership of organizations to unleash their power and influence as allies to lead diversity and inclusion transformation is the key to unlocking a shift in the workplace culture to be more welcoming of women and other underrepresented groups. By meeting this target audience where they are at – articulating the value proposition to them through an economic lens – and leading them through understanding that they are the solution, not the problem to achieving this shift, is where true traction across an organization takes place. With the leadership confidently knowing how to be the change and make the change across their organization, meaningful and impactful change can occur over a relatively short period of time. Mobilizing the combined efforts of their executive, human resources, and communication teams, effective actions can be taken on: •Conducting data analytics and tracking key indicators on women and other underrepresented groups related to pay inequities; policies and programs, etc.; •Providing skills and training development on how to overcome resistance to D&I, inclusive leadership and allyship; as well as •Repositioning the brand/image of the organization on how

it portrays itself both internally and externally The Centre for Social Intelligence has spearheaded this approach over the last three years across the whole of the forest sector and seen amazing results. Arguably one of the most male dominated sectors, this presentation will speak to this approach and how the forest sector is moving from laggards to leaders on D&I.

Solving the ‘lonely only’: The Canadian Black Scientists Network and the advantages of a national, multidisciplinary coalition in STEM

Presenters

Maydianne Andrade, University of Toronto Scarborough

Juliet Daniel, McMaster University

Black Canadians are under-represented in most professional fields, and this is particularly true in STEM. This fact in itself presents substantial challenges to change. A dearth of Black exemplars, mentors, and leaders affects pathways into STEM fields (‘see it to be it’), the success of those already in those fields (decoding unwritten rules, supporting success) and the development of efficacious programs and policies to reverse institutionalized anti-Blackness (‘nothing about us without us’). This leads to several questions. How do we effect change when visibility and representation are so important, but there are so few who have ‘made it’? How do we maximize the impact of those who are established in their fields, when many are working in environments rife with bias and racism, and anti-racism work is not compensated or rewarded? How do we ensure that successful policies and programs are available across the country, when progress is often made in institutional or regional silos? We discuss our approach of organizing across regions and disciplines to create a high-visibility coalition of Black Canadians in STEM. This national organization can drive national adoption of innovative programming more effectively than any regional or single-discipline entity. This is an effective, if virtual, solution to the ‘lonely only’ problem. We discuss engagement in responsible data collection, program vetting, mentorship, outreach and increased visibility. We also discuss barriers to success, including a dearth of operational funding and the time pressures inherent in creating and stabilizing such a structure.

The Missing Piece in STEM Success – Supporting the Support Networks

Presenters

Jasmine Shaw, Technical Project Manager @ Solace & Entrepreneur

Angelica Tilli, Director of Outreach @ Society of Women Engineers - Ottawa, EIT @ Canadian Bank Note

Diane Watson, Program Manager @ Nokia & Chair @ Women in Communications and Technology - National Capital Region

Time and again, research has shown that support networks are a key success factor contributing to the retention of women in STEM. However, little is known about what contributes to the success of these networks themselves – the community groups, non-profits, professional associations, and grassroots organizations that collectively contribute thousands of hours to advancing diversity & inclusion in STEM. In Canada alone, there are over 40 organizations dedicated to this very issue, reaching thousands of women across the country. The pressing question we must answer is: How might we amplify their impact even further? In order to drive meaningful change in this space, we believe the focus must expand beyond empowering individual women to ensuring sustainability of the supporting

infrastructure. After all, these organizations form the backbone of the women in STEM mission. In this presentation, we explore the common pain points experienced by community groups (such as limited funding, resources, engagement, and time); share real-life success stories and best practices for minimizing these pain points (developed through our own experience leading non-profits and primary data); and identify key enablers to facilitating collaboration between community groups in order to maximize impact. We end with calls-to-action for all stakeholders to implement, in order to further enhance the community infrastructure. The adoption of a “systems thinking” approach requires acknowledgement of the deep interdependencies between companies, community groups, and individuals. A shift in perspective from “I” to “we” might be the missing piece to unlocking the success and potential of all women in STEM.

A positive and impactful Manifesto on the situation of women in STEM

Presenters

Louise Lafortune, Université du Québec à Trois-Rivières

Claire Deschênes, Université Laval

Audrey Groleau, Université du Québec à Trois-Rivières

In the winter of 2020, members of the Association de la francophonie à propos des femmes en sciences, technologie, ingénierie et mathématiques (AFFESTIM ; Association of Francophone Women in STEM) held a strategic planning meeting in which they discussed the progress made since the 1980s, but also the road ahead regarding the situation of women in STEM. They wanted to take those thoughts further and to put them into writing. Members of AFFESTIM, with approximately forty people from various backgrounds, wrote a book. It is a positive and impactful manifesto on the situation of women in STEM, containing 50 short texts, each on a theme related to women in STEM: how to produce inclusive pedagogical resources in STEM, how women in STEM have experienced the COVID-19 pandemic, the importance to produce and maintain archives on women in STEM, a look back to 40 years of work by pioneers, etc. The texts adopt a positive tone and propose solutions, even if they show the obstacles that still stand on the way of women in STEM. The book was recently published, and is also available in an electronic open-access version for wide distribution. It will also soon be available in English and in Spanish. In this communication, we present the process of drafting the manifesto, the main findings it arrives at and the recommendations it makes to guide the work of women’s associations in STEM in the coming years.

We Are Paying Attention Now – Culture Matters!

Presenter

Roxanne Kemp, Cultural Intelligence Center

In a world of civil & racial unrest, certain critical events transpired during the Covid 19 Pandemic that has caused our generation to take a deeper look at Equality, Diversity, and Inclusion (EDI). In addition to protestors marching in the streets, businesses have reportedly spent billions of dollars improving racial

relations among workers. Some may argue that this year is one of the most socially and culturally woke moments in history. And if this is the case, leaders must seize this moment in their areas of influence to inspire others to grow and evolve. In fairness, most leaders believe that there is more work to do in this arena. Consequently, the conversation on leading diverse populations is not new, but today, it is a conversation that the world is ready to join. This presentation will recap the impact of various political and racial events and how the world has responded. The sessions will then provide global leaders with key strategies to aid them in taking advantage of the present change management and DEI opportunities most organizations face.

Workplace Transformation: CCWESTT Projects and Initiatives

Presenter

Bonnie Douglas, CCWESTT

This session will highlight CCWESTT projects and initiatives that explore what workplace transformation looks like in SETT workplaces. Participants will learn the findings from the We Are Trades project, and be presented with the steps for successfully creating safe and inclusive skilled trades workplaces for women. Local employers and organizations will share their experiences advocating for, supporting, and implementing change, including what it will take for employers to implement. Next steps for CCWESTT as a part of workplace transformation will be explored, including an introduction to the work so far on their new project: Gender Inclusion in SETT Workplaces: Effective Strategies for Systemic Change and how this project connects with the CCWESTT Strategic Plan.