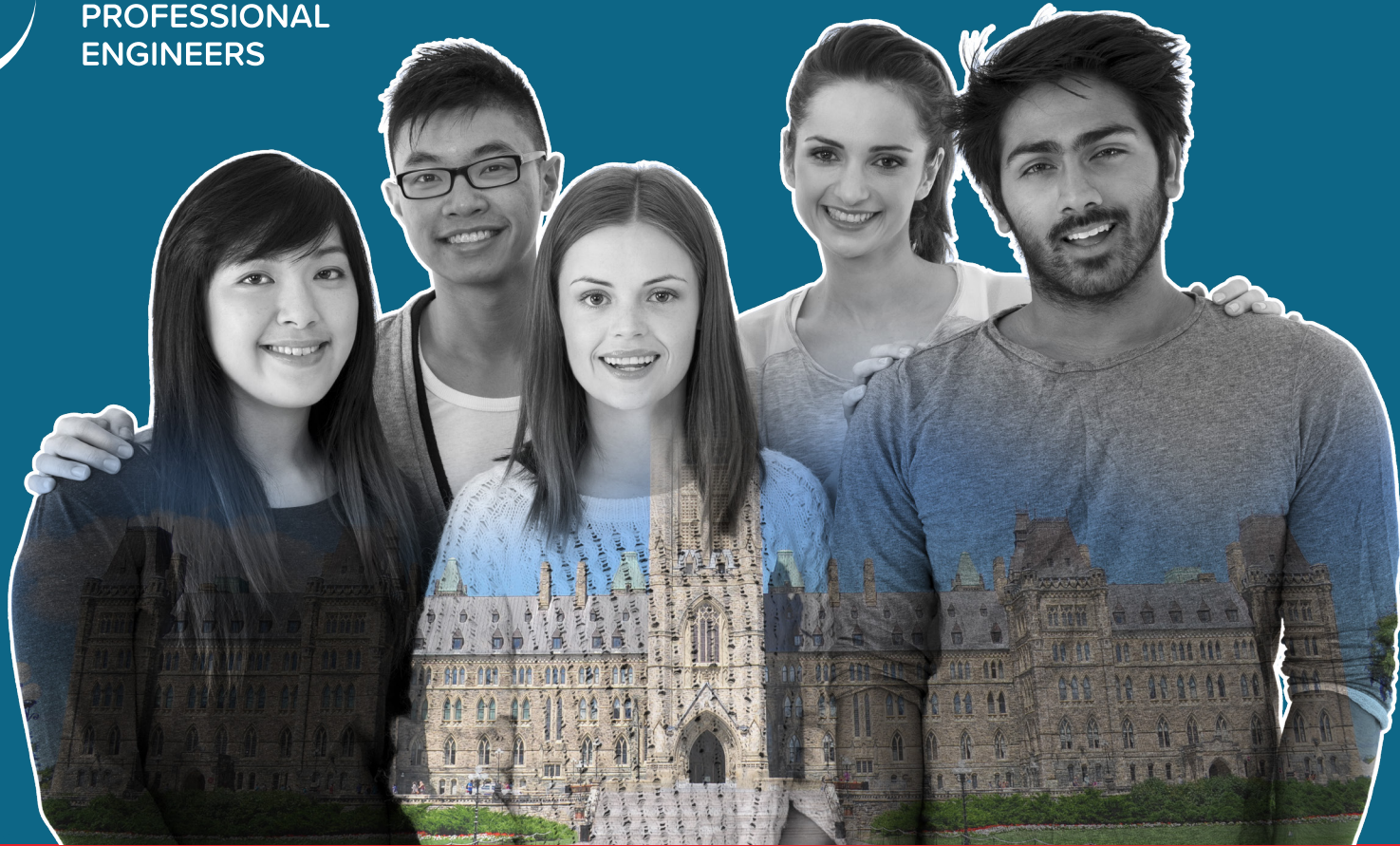




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The EDI Imperative:
Changing the Profile of STEAM in Canada
Impact Report

At the Ontario Society of Professional Engineers (OSPE), we believe that the engineering profession must increase equity, diversity, and inclusion to thrive. We have made this a key component of our Strategic Plan, *Engineering the Future Together*.

OSPE relies on the wide range of experiences that our members and stakeholders have, in order to problem solve and innovate on issues facing society. We believe that bringing professionals of all diversity dimensions together will help the entire profession learn and grow.

In 2017, OSPE launched the Equity, Diversity, and Inclusion (EDI) Committee to compliment and strengthen our legacy efforts in advancing women in the profession. Today, we are focused on overcoming this challenge through the lens of intersectionality.

Intersectionality recognizes that people are not one dimensional; we each have many diversity dimensions, such as race, gender, age, socioeconomic status, sexual orientation, religion, education, ability and ethnicity.

While we know, anecdotally, that there are various underrepresented groups within engineering and the other STEAM professions, the significant data deficit that exist means we cannot quantify the issue. OSPE is determined to collect information that will help our profession understand the current diversity landscape and identify gaps.

Generating awareness and understanding of the barriers women and other underrepresented groups face in the STEAM sector is the first step in creating cultural change. However, more important is sharing best practices and discussing strategies that industry, government, academia, and individuals can implement to make diversity and inclusion a reality. Your support enables us to do just that. Without you, our annual Forums would not be possible. We are excited to share some of the highlights of our collective impact in this Post-Forum Report.

Thank you for helping us change the profile of STEAM in Canada. We look forward to continuing to work with you to tear down barriers and build the future together.

Sincerely,



Rejeanne Aimey, P.Eng.
Vice Chair, OSPE Board of Directors
Chair, OSPE's Equity, Diversity and Inclusion Committee



Sandro Perruzza
Chief Executive Officer
Ontario Society of Professional Engineers

OSPE's Role

OSPE has committed to understanding and addressing the challenges facing underrepresented groups in engineering and STEAM through its Women in Advocacy Champions Task Force (WE ACT) and its Equity, Diversity and Inclusion (EDI) Committee. OSPE works diligently to encourage women and other equity seeking groups to pursue engineering as a career and seek leadership roles. OSPE does this by bringing industry, academia and government together to facilitate cultural exchange at all parts of the engineering continuum. This allows equity seeking groups to feel embraced, valued, and respected in the profession.



Some of the ways in which OSPE supports these groups includes, but is not limited to:

- Since 2008, OSPE has received government funding to run bridging programs that address barriers for international engineering graduates (IEGs). These programs provide a guiding light to new Canadians looking to enter the profession. According to OSPE's analysis of 2016 Canada Census data, IEG's are not faring well in Ontario's labour market. Both women and men with engineering degrees outside of Canada are highly underemployed at 50% and 46% respectively. One of OSPE's bridging programs is a course designed specifically to support international engineering graduates who are preparing to write PEO's Professional Practice Exam.
- OSPE supports Engineers Canada's 30 by 30 initiative to increase the number of women who pursue licensure to 30 per cent by 2030. Research shows the phase between graduation and licensure to be particularly difficult and OSPE launched an 18-month Pilot Mentorship Program in 2015 aimed at addressing this. Funded by the Department for Women and Gender Equality, the mentorship program continues to evolve and thrive to ensure that women and members of other underrepresented groups stay engaged in the workforce.
- In 2018, OSPE signed the Electricity Human Resources Canada's (EGRC) Leadership Accord on Gender Diversity, which commits to improving opportunities for women in the Canadian workplace through recruitment, retention, career progression, training, and development.

- OSPE's Breaking Barriers for Women in STEM project, funded by the Department for Women and Gender Equality, focuses on shifting workplace cultures and practices to be more inclusive. Through this three-year project, OSPE created DiversifySTEM, a micro-learning app that delivers bite-sized, actionable microlessons for time-crunched STEM employers who want practical tips on attracting, retaining, and supporting women and other equity-seeking groups in STEM careers.
- In 2016, OSPE received funding for an additional bridging program focused on equipping IEGs with the skills to succeed within Ontario's Environment Sector. Since 2018, 58% of those who participated and completed this course are now employed in engineering or a related field.
- In 2019, OSPE entered a formal collaboration with the Centre for Indigenous Innovation and Technology on proposals to fund more Indigenous engagement in engineering. According to Engineers Canada, only 1% of professional engineers across the country identify as Indigenous. This is a concerning trend, particularly as Indigenous peoples are the fastest growing segment of the Canadian population.
- OSPE has published various articles creating awareness and educating the engineering community on topics that impact underrepresented groups. The topics are on a variety of subjects, such as microaggressions, intersectionality, work-life balance, Indigenous worldviews and technological stewardship, and religious considerations in Personal Protective Equipment (PPE).



The Forum

On November 6, 2019, more than 750 individuals from industry, government and academia gathered to attend the EDI Imperative: Changing the Profile of STEAM in Canada, presented by OSPE's Equity, Diversity and Inclusion Committee. The event took place at the Shaw Centre in Ottawa, our nation's capital, whose labour market is amongst the highest technology focused in North America, with its tech sector representing 9.9% of the city's entire workforce. Mayor Jim Watson is one of the many leaders recognizing the value of attracting and retaining diverse talent.



OSPE's EDI Imperative: Changing the Profile of STEAM in Canada built on the success of our 2018 It's Time We Act and our 2019 It's Time We Build Forums, by utilizing a broader diversity and inclusion lens. Research tells us that creating diverse and inclusive professions is a business imperative, and that diversity impacts brand, corporate purpose, and performance. Not only is the public increasingly aware of the issue, but employees are also expressing stronger views on this.

As new research tells us that diverse and inclusive teams perform better and with more innovative ideas, many organizations have spent more time developing diversity programs. However, this has often meant disregarding inclusion. This is a complex challenge with little consensus on how to achieve results.

As organizations prepare to implement significant changes, they fear they don't have the capacity to evaluate or integrate initiatives effectively. Research has shown that to succeed, diversity and inclusion initiatives require significant internal buy-in, not only from leaders, but from employees at all levels. The forum focused on answering the question that remains on many minds across the sector: **How?**

Objectives

Action	Leadership	Community
Provide delegates with actionable strategies and tools to create and/or evaluate their own equity, diversity, and inclusion efforts. Participants will have the knowledge and know-how to ensure their organizations are taking the right approach to diversity and inclusion.	Give a platform to a community of partners to position themselves as leaders driving the charge towards diversity and inclusion in the workplace.	Enable participants to create meaningful connections with each other and expand their professional networks.



Forum Highlights

26+ Booths
3 Panels
52+ Partners
27+ speakers

3 Keynotes
2 Workshops
750+ Attendees

Social Media Impressions

28K people
615 likes
145 retweets



Delegates identified as:

60% women

30% men

10% preferred not to say

13% students

2% new graduates (0-2 years)

11% young professional (2-4 years)

19% mid-career (5-10 years)

53% experienced professionals (10+ years)



Key Takeaways

1. Challenge gender stereotyping. We cannot think about the future of the STEAM sector in Canada without analyzing the messages that children receive about their value and the value of their contributions. Gender stereotyping creates barriers and it is the collective responsibility of mothers, fathers, teachers, communities, marketing, media, industry, education, and every individual to challenge this.

2. Diversity is easy. The challenge is inclusion. Diversity focuses on ensuring that an organization can find the right mix of employees. However, for those employees to feel valued and contribute effectively, there must be an effort to create a welcoming and safe work environment. Without inclusion, individuals will feel discouraged, undervalued, and are more likely to be uncomfortable sharing due to fear of being criticized or ignored.

3. Intersectionality matters. Using overly reductive language in diversity and inclusion efforts can lead to exclusion. Think about the complexities of identity and how these are captured in the diversity and inclusion efforts being implemented by the organization.

4. Cognitive diversity is important. How individuals process new information, how they think, and how they behave is different; there are analytical thinkers, conceptual thinkers, structural thinkers, and social thinkers, amongst others. Otherwise known as diversity of thought, although not a demographic characteristic, this is a valuable aspect of diversity. The acronym STEAM demonstrates the importance of collaboration across disciplines to tackle the ever-complex issues facing society today.

5. Talk without action is just talk. Action without thought is misguided. Making a verbal commitment to diversity and inclusion is not enough. Concentrated action must be taken to make it a reality within the organization. This requires developing an actionable strategy.



6. Conduct an assessment. To identify challenges and opportunities. Ensure that the assessment includes the voices of all members of the organization/department.

7. Evaluate your efforts. What gets measured gets done. Those that are serious about improving diversity and inclusion internally must set metrics, including benchmarks, scores, and planning for next steps.

8. Take the time to get to know your employees. Not all members of a specific group or groups identify the same way. Understanding the individual experiences of your employees will enable you to create an inclusive environment.

9. Lead by example. Build a network and identify employees that may require mentorship or sponsorship. Help them shatter glass ceilings.

10. Create safe spaces. Employees should feel comfortable speaking about their experiences and the barriers they are facing in the workplace without fear of retribution. Creating 'brave' spaces and listening to their concerns will help to improve the solutions being implemented.

11. Make diversity and inclusion part of your core value. There are three fundamental principles that drive an organization's commitment to diversity and inclusion. These are called the ABCs of diversity and inclusion:

- **Appeasement:** It is required due to an external or internal event, such as someone is suing the company or there is a human rights complaint.
- **Business case:** It is determined that this will boost the bottom line based on market demands.
- **Core value:** Diversity and inclusion is part of your core business, therefore if it is removed out of any part of the business, it will fundamentally change the company/organization. The diversity and inclusion plan must connect and reflect the business strategy, otherwise, it will be deprioritized.



12. Build accountability. The top leaders in the organization must drive diversity and inclusion efforts. However, to succeed, these efforts must be implemented effectively by middle management. Ensure that middle managers have the adequate training and skills to do this. Consider building accountability by attaching incentives to this work.

13. Intercultural competence. Determine if you have the capacity to navigate the complexities of diversity and inclusion. Based on the Intercultural Development Inventory, this requires an understanding of how to bridge across differences, ensuring that employees feel understood and valued, rather than ignored or uncomfortable. Keep in mind that minimizing differences will have a negative impact on inclusion.

14. Put the employee experience first. With the digital revolution comes a level of complexity that is unprecedented. The new proliferation of stakeholder demand to have their say—not only to be consulted, but also to be brought on as co-creators of policy. The expansion of data science and AI, and the transformation towards a knowledge-based economy, highlights the value of people and intensifies the talent search. With this is the potential for improving services to citizens and customers.

15. Be bold. Achieving diversity and inclusion will mean having difficult conversations and taking disruptive actions. Change is often faced with some resistance. Embrace this as part of the process and be confident that the results will be worth the effort.



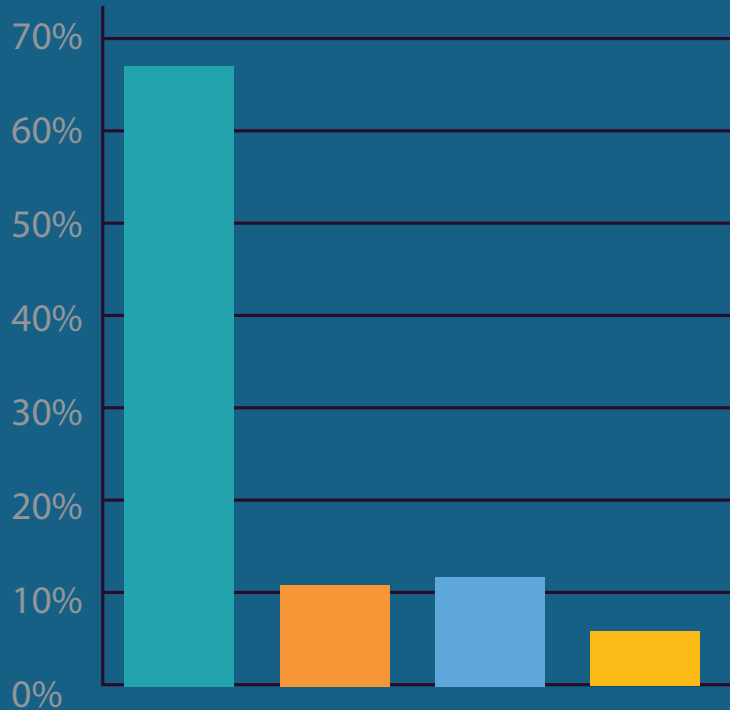
Where are we today?



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Does your company/organization/department currently have a diversity and inclusion strategy?

Votre entreprise/organisation/service a-t-il actuellement une stratégie concernant la diversité et l'inclusion?



A	Yes/ Oui	67%	170
B	No/ Non	12%	30
C	In development En cours d'élaboration	13%	34
D	In discussion En discussion	7%	18
Total Responses			252

What We Heard from Delegates

“If I took one thing away from today, it would be the importance of leading by example, mentoring others, and making sure there is diversity in leadership so that younger/junior staff can see themselves in these positions.”

“Working on unconscious bias is a constant effort.”

“It all begins with me.”

“Diversity is a reality; inclusion is a choice. We need sponsors who will actively support inclusion and seek our opportunities. We need to cause change not just watch it happen.”

“Set quantitative goals and follow up on them.”

“Members of equity seeking groups may not fit the expected narrative, and it is important to focus on individual experiences.”

“The public sector is taking significant action to be more diverse.”

“We need to work on 30 by 30.”

“Act, react, stay engaged, and be disruptive.”



What Does Diversity and Inclusion Mean to You?

'Que tous se sentent a l'aise d'être qui ils sont vraiment'

'Feeling and knowing that we all belong'

'Unity'

'Together we are stronger'

'Normalizing the presence of all minorities in STEAM'

'Acceptance'

'Not losing my job because I am gay'

'Accepting and embracing our differences'

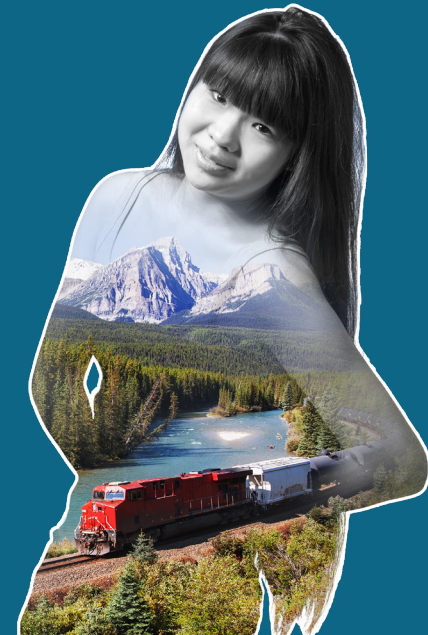
'Recognizing intersectionality'

'Community'

'Understanding we instead of I or you'

'Chosen for what you do, not who you are'

'Nobody is left behind'



What Does Diversity and Inclusion Mean to You?

‘Everyone’s ideas and perspectives are given appropriate respect and consideration’

‘Equality’

‘I can bring my whole lesbian, mental health, disabled self to work every day’

‘Understanding that everyone has a unique experience’

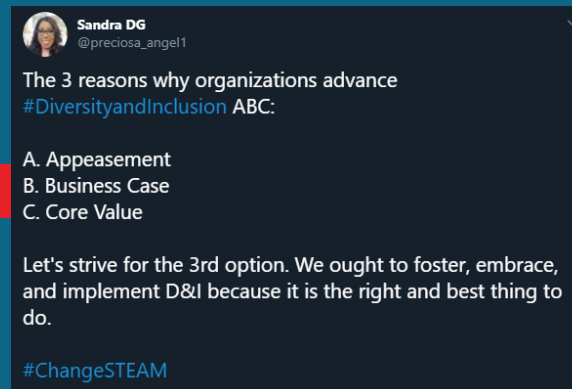
‘Innovation’

‘Thriving as a queer woman of colour’

‘Different perspectives’



What Partners and Delegates Were Saying Online



What Partners and Delegates Were Saying Online



This is what some of our delegates will do next. What will you do?



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Based on what you have learned here today, what will you do next?

Avec ce que vous avez appris ici aujourd'hui, qu'allez-vous faire par la suite?



A	Create a diversity and inclusion council Créer un conseil de la diversité et de l'inclusion	9%	15

B	Conduct an assessment of the organization Effectuer une évaluation de l'organisation	22%	35

C	Review existing programs/initiatives Passer en revue les initiatives/programmes existants	69%	109
Total Responses			159

Things to think about for building a diversity and inclusion plan

1. Have a Plan
2. Role of EDI in the Plan
3. Intercultural skills inventory
4. Create people management system
5. Create an inclusive environment
6. Top leadership support
7. Build skills among middle managers/supervisors
8. Hold them accountable
9. Practice inclusiveness
10. Employee networks (where necessary)

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Actionable steps for creating a plan

1. Map out the Process
2. Gather information and Self-Assessment
3. Develop a Vision
4. Review the Plan
5. Adopt Plan and Communicate. Communicate. Communicate.
6. Implement Plan
7. Review and Revise as needed

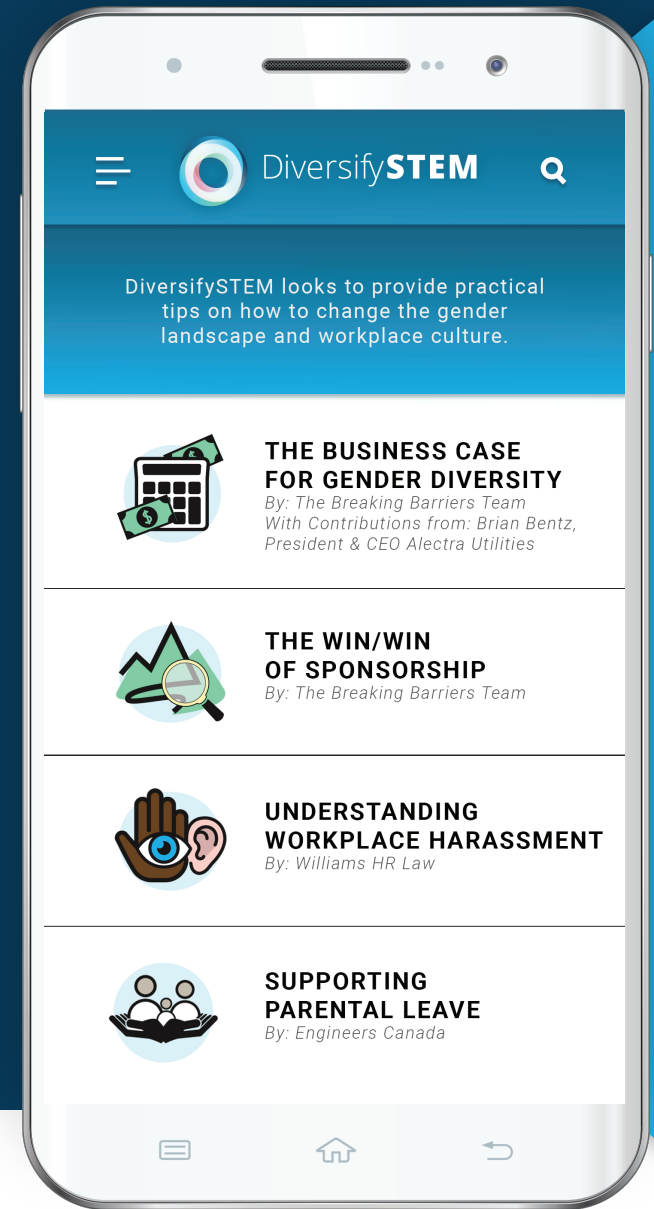


Introducing DiversifySTEM

A free microlearning site which delivers fast, bite-sized actionable lessons on promoting gender diversity and changing culture in STEM workplaces.

- Get the latest DiversifySTEM microlessons to go!
- Access the modules you need at your fingertips
- Get notified when new lessons are added
- Engage in the discussion forums
- Seamless login across desktop and apps

DiversifySTEM was developed by OSPE's Breaking Barriers Team, in collaboration with industry partners and experts, and funded by The Government of Canada Department of Women and Gender Equality.



#ChangeSTEAM

OSPE relies on the wide range of expertise and experience that members bring to the association to help problem solve and innovate on issues of importance to stakeholders. The depth and breadth of the OSPE community also helps to strengthen the profession, as it enables us to bring together professionals of all diversity dimensions and engineering backgrounds to help one another learn and grow.

In 2020, OSPE will continue to be a leader on the path to achieving equity and inclusion in STEAM. This means creating professions that accept all diversity dimensions, including gender, race, ethnicity, ability, sexual orientation, educational background, etc.

Interested in becoming part of this movement? Join OSPE today and become instantly connected to an impressive network of like-minded people who understand the value you bring to the field.

To learn more, visit www.ospe.on.ca.



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OSPE's 2020 Diversity and Inclusion Forum

OSPE continues its EDI initiatives by examining the untapped potential of a developing labour force in southwestern Ontario.

Contact us for a chance to collaborate across disciplines with industry leaders and experts.

Date: October 20, 2020

Location: Windsor, Ontario

Reach an audience of professionals engaged in every engineering discipline and sector.

For partnership inquiries contact:

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613-986-1437





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