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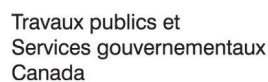
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**Kris Fillion**, Marketing Manager | Directeur du marketing  
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CANADIAN CIVIL ENGINEER | L'INGÉNIEUR CIVIL CANADIEN  
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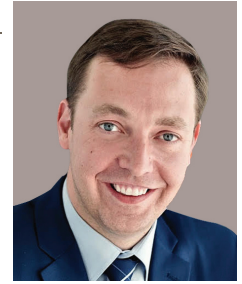
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# Your **experience** is what you make of it

## Dear friends, colleagues and members,

There was never a statement as true as this, "your experience is what you make of it". This applies to everything we do in life. As civil engineers, we witnessed it as students, as professionals and even here within CSCE. While some of my colleagues have opted, like I have, to pursue the highest levels of leadership within the Society, others have chosen to participate in member activities and events or have landed in a role within the Society that they are comfortable with and don't feel the need to do more. But that is exactly what we hope that our members will understand – your experience as a member should be exactly what you want it to be.

As members, you know you can use this platform to build your experience around leadership, project management, budgeting and learning to leverage your professional network. You can also use it to solicit advice and resources that could benefit your progress. Even linear experience has many benefits. Through time, we are able to observe, learn and provide insights that we wouldn't otherwise have.

The new generation of civil engineers brings a different perspective altogether. While in the past we lived by the tradition of a transfer of knowledge from more senior professionals to the new younger crew coming into the workforce, this is no

longer sufficient. With the rapid change in technology and working means in the past decade, not to mention the ever evolving educational systems that are allowing for an international education, it's no wonder these new graduates have a few things to transfer up to the senior generation as well. At CSCE, we recognize this co-opportunity for learning and that is why it is so important for us to be an equal opportunity Society. We encourage members of all seniorities to apply for roles that will allow them to share their experience and strengths with all of us.

We also want to take the opportunity on the heels of the 2019 Annual Conference and the ACE awards gala to remind everyone to start planning now for next year. It's never too early to start working towards your goals. Our next Annual Conference will be held in Saskatoon, Saskatchewan – more information will be available soon.

Another initiative that we are on the cusp of starting will bring together our Corporate Partners and individual members together for a mutual exchange of opportunity. Until now, most of our regional events have centered on the needs of our individual members with regards to technical learning and networking opportunities. However, we have realized that these events would be mutually beneficial for our corporate members as well. We invite all of our partners and members to reach

out to their local sections to learn about upcoming events and how they can take part. We are also extending preferred rates and complimentary memberships to show our appreciation for anyone bringing in new partnerships or surpassing the membership quota. Learn more about benefits and corporate packages at [www.csce.ca](http://www.csce.ca).

We would also like to share a bit of news about the CSCE HUB that was launched in May. As most of you are aware, it has a full service library archive that allows all members to upload and share technical content, abstracts, videos, and the like. Recently, it has become the official site where the CSCE History Committee will be sharing surveys and site information. You can start looking up this information in the coming months. Be sure to share your content as well – chat about it, get feedback and share ideas.

On a last note, we have been working tediously on CSCE's vision for 2030 and we look forward to sharing that with all of you in the coming months.

As always, be seen, be heard and be relevant.

Best regards.

Michel Khouday, P.Eng., M.Eng.,  
PMP, C.Adm., M.B.A., Ph.D.  
President, CSCE/Président de la SCGC  
[president@csce.ca](mailto:president@csce.ca) ■

“

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Michel Khouday, ing., M.Eng.,  
PMP, Adm.A., MBA, Ph.D.  
Président de la SCGC  
[president@csce.ca](mailto:president@csce.ca)

# Que ferez-vous de votre expérience

## Chers amis, collègues et membres,

Votre expérience sert dans la mesure où vous la faites servir. Un peu comme tout dans la vie! Après l'avoir constaté pendant nos études, nous le voyons comme professionnels, et nous le voyons encore à la SCGC. Certains de mes collègues ont choisi, comme moi, la direction de notre société, et d'autres préfèrent participer aux activités proposées ou jouer un rôle discret, à leur convenance, sans ressentir le besoin de faire plus. C'est précisément ce que nous souhaitons que nos membres comprennent : votre expérience à la SCGC doit être exactement ce que vous voulez qu'elle soit.

La SCGC est entre autres une plateforme où vous pouvez acquérir de l'expérience en leadership, en gestion de projet ou de budget, ou apprendre à tirer parti d'un réseau professionnel. Vous pouvez aussi solliciter l'avis de collègues ou trouver des ressources qui vous feront progresser. Même une expérience linéaire a de nombreux avantages. Avec le temps, nous observons, nous apprenons, et nous aidons comme nous n'aurions pas pu le faire autrement.

La nouvelle génération ouvre une perspective différente. Nous connaissons le transfert traditionnel de connaissances des plus aguerris aux nouveaux, mais cela ne suffit plus. Puisque la technologie et les outils de travail progressent sans cesse, sans parler de l'évolution constante du système d'éducation qui permet d'acquérir

une formation internationale, il n'est pas étonnant que les nouveaux diplômés aient aussi quelques éléments à transférer vers la génération qui les précède. Conscients de ces possibilités d'apprentissage mutuelles, il nous paraît important que la SCGC tende à l'égalité des chances. Nous encourageons donc tous les membres, quelle que soit leur expérience, à chercher un rôle qui leur permettra de partager leurs savoirs et leurs forces avec chacun de nous.

Le congrès annuel et le Gala distinctions de 2019 sont à peine derrière nous, mais nous vous invitons à être présents l'an prochain! Il n'est jamais trop tôt pour vous mettre en marche vers vos objectifs. Le prochain congrès annuel aura lieu à Saskatoon, en Saskatchewan. Nous vous en dirons davantage sous peu.

Une autre initiative verra bientôt le jour. Elle réunira les sociétés partenaires et des membres individuels pour un échange de possibilités. La plupart de nos activités régionales à ce jour visent les besoins de nos membres à l'échelle individuelle, à savoir des formations techniques et des possibilités de réseautage. Nous avons constaté toutefois que ces activités sont tout aussi bénéfiques pour les entreprises membres de la Société. C'est pourquoi nous invitons tous nos partenaires et tous les membres à s'informer du programme à venir auprès de leur section et de la façon de prendre part aux activités. Nous offrons d'ailleurs des tarifs

préférentiels et le montant de la cotisation à qui nous permettra de conclure de nouveaux partenariats ou d'accueillir de nouveaux membres. Voyez quels sont les avantages et les possibilités sur notre site Web, à l'adresse [www.csce.ca](http://www.csce.ca).

J'aimerais en outre vous dire quelques mots sur le Hub SCGC, inauguré en mai dernier. Comme la plupart d'entre vous le savez déjà, il comprend un dépôt d'archives polyvalent, où vous pourrez verser des contenus techniques, des résumés d'articles, des vidéos, etc. C'est aussi, depuis peu, le site où le Comité d'histoire affiche des liens vers différents sondages et sites d'information. N'hésitez pas à vous y rendre dans les mois à venir et à partager de même des contenus d'intérêt, à clavarder, à donner de la rétroaction et à nous faire connaître vos idées.

Sachez enfin que nous travaillons d'arrache-pied à la formulation de la vision de la SCGC pour 2030. Il nous tarde de vous communiquer les résultats. Ce sera chose faite d'ici quelques mois.

Comme toujours, je vous invite à vous faire voir, à vous faire entendre et à vous rendre indispensables!

Au plaisir,

Michel Khouday, P.Eng., M.Eng.,  
PMP, C.Adm., M.B.A., Ph.D.  
President, CSCE/Président de la SCGC  
[president@csce.ca](mailto:president@csce.ca) ■



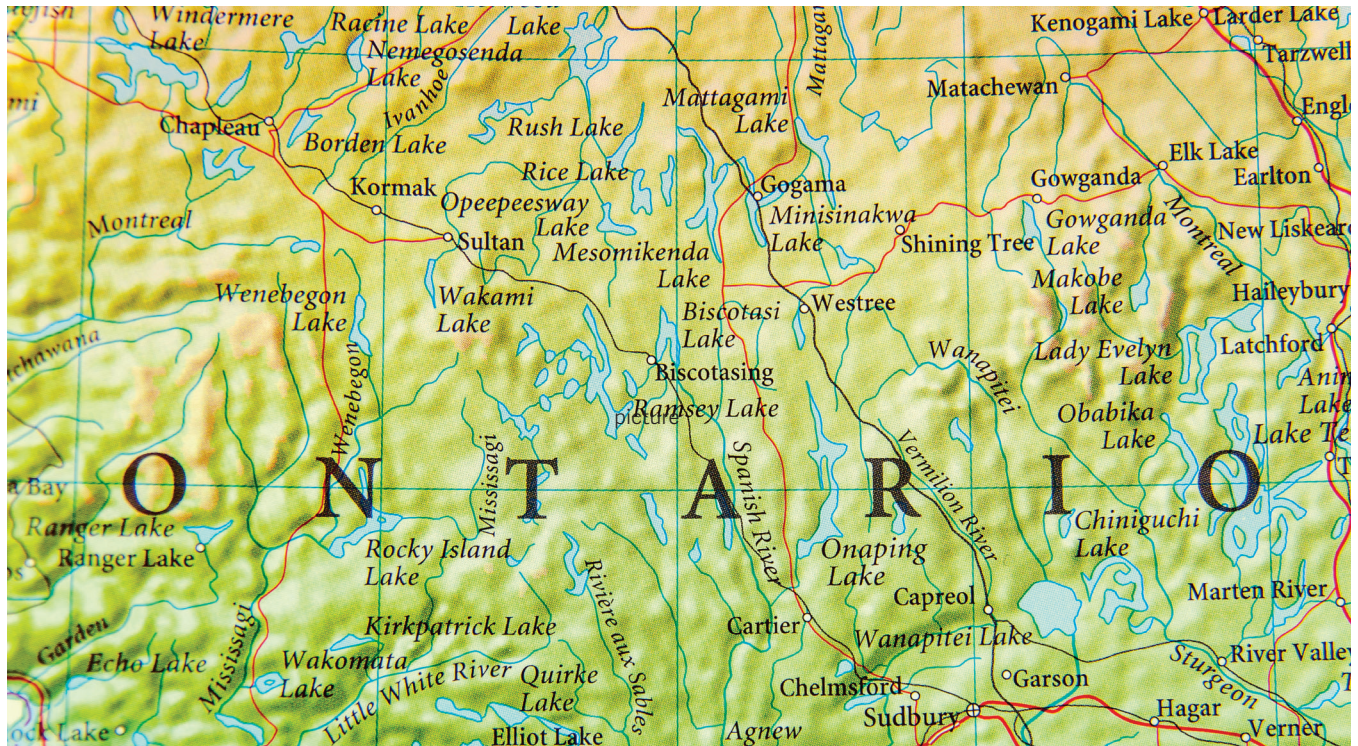
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# CSCE Ontario Region

By Peter CALCETAS, FCSCE, M.Eng., P.Eng., MBA, LEED Ontario Regional Vice President, CSCE



**The past year has seen significant collaboration activities throughout the Ontario Region.** Thanks to a dedicated volunteer membership, we have been able to create and execute on several initiatives which build on innovation, creativity, experience sharing and resiliency. Participation in "The HUB", CSCEs online collaboration and sharing platform, is an investment in membership resilience through enhanced connectivity. The Ontario Region is committed to this initiative. We are proud that the majority of the HUB Taskforce Founding Teammates called Ontario home at one point in their lives. This innovative, custom built portal builds on earlier experiences with The CSCE Mentor Protege online Portal, created through our Corporate Member Mentor City, which continues to provide a multimedia connection between Mentors and Proteges across Canada. Intended to enhance cross generational, speciality and geographic

intellectual capital, further supporting the creation of new experiences along with the exchange of lessons learned.

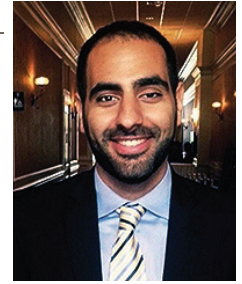
Within the Ontario Region our volunteers at the Section (Practitioner) and Chapter (Student) organizations created and executed the promotion of career development and professional enrichment. Of particular note is the Toronto Section's hosting of the "Get noticed, Get hired" event following up on previous successful iterations, which highlights participation of professionals in recruitment, talent acquisition, human resources and senior management. Ontario's network hosted many events including tours at various industrial, commercial, infrastructure and construction sites. These events were made possible through the generous donations and in kind contribution from industry.

The Ontario Region is proud of its contributions to innovation and the

advancement of the state of the art in Civil Engineering. Ontario's York Region Department of... Revealed The CSCE Award for innovation for their work in...

Going forward, the Ontario Region will continue to promote experience sharing, Mentorship, career enhancement and resiliency. For example, in collaboration with The Canadian Standards Association and hosted in part by The Ministry of Transportation, the CSCE will offer a lecture tour on Ultra High Performance Concrete's (UHPC) 2019 innugural inclusion in CSA A23.1 (a.k.a. "The Concrete Code") & S6 (a.k.a. "The Bridge Code").

In summary, we believe that by helping provide great shareable experiences through social events, physical/online networking and learning opportunities we enrich our careers and the profession of Civil Engineering in Canada. Civil Engineering enthusiasts are welcome to join us on this journey of discovery, innovation, service and self improvement. ■



Rami Mansour, MASc., P.Eng.  
Bridge Designer, SYSTRA-IBT Chair,  
National Young Professionals  
Committee, CSCE

# Maintaining a Strong and Connected Engineering Community

**At its core**, civil engineering is the art of using logic to develop original and creative solutions. The desire to understand how the world works is one of the main reasons people choose to pursue a career in civil engineering. At first, this desire is not focused on one aspect of engineering, but broadly touches on all aspects of science, technology, engineering and mathematics (STEM). Most applicants are already interested in physics, chemistry, biology, math and all other subjects that explain the natural world. Once university begins, students are required to quickly specialize in a specific subset of engineering. Specialization provides society with an army of engineers, each with a specific set of skills, who have the knowledge and resources to solve societies many problems.

This specialization continues after entering the work force. Students that were interested in all aspects of STEM, now spend at least 40 hours per week on a specific role, in a specialized industry, within a narrow subset of civil engineering. Inside of these 40 hours, there is limited exposure to the amazing work being done throughout the civil engineering community. As young professionals, the pressure to succeed in our new roles, balanced with our blossoming personal lives, can cause some to stop pursuing general knowledge in STEM related fields.

Transitioning from multi-dimensioned, passionate students to specialized, one-dimensioned professional engineers, can be a huge detriment to the careers of young professionals and our industry. When engineers become too focused on specific roles, they don't spend enough time learning about the work being done by other civil engineers. By not sharing this work, our profession is losing an opportunity to learn from each other and increase the creativity in

our respective fields. This communication is becoming more important as our industries become increasingly interconnected. No longer does a bridge engineer need to focus solely on creating a structure. They must understand how certain techniques and materials can impact the environment, what impacts future modes of transportation may have, the various types of data collection and sensors needed for our future smart cities, and more.

As young professionals, we can maintain this passion and use it to our advantage by understanding how changes or advancements in other industries can impact our own. By attending conferences, reading engineering papers and magazines, and networking with other civil engineers, we give ourselves the opportunity to gain more knowledge. After all, knowledge is power, and it can improve the outcome of

our careers and professions by increasing our creativity and allowing us to adapt to the changes in this profession. A CSCE membership provides these opportunities. Whether it's attending conferences, reading this magazine, or attending section events, the CSCE provides multiple tools for young engineering professionals to learn, network, and rediscover their passion for engineering.

As with all societies, there is always room to improve. As the incoming chair of the Young Professionals Committee, I am eager to hear about your thoughts on what the CSCE can do to better engage young professionals. If you have any suggestions or would like to discuss anything related to the ideas presented in this article, please feel free to email me at the address below.

Rami Mansour, MASc., P.Eng.  
CSCE Young Professionals Committee Chair  
[rmansour@systra.com](mailto:rmansour@systra.com) ■

## André Poirier has joined R.V. Anderson in the position of Senior Engineer in our Municipal Infrastructure Group.

Based out of our Toronto office, André brings over 20 years' engineering and project leadership to RVA's team.

André's expertise is in linear infrastructure, water distribution, wastewater and stormwater collection and management. He has successfully managed numerous infrastructure planning, design and construction projects in Ontario including Master Planning, Class EAs and infrastructure designs.

André is fluent in several languages and is looking forward to working with RVA's clients in providing and delivering infrastructure solutions for today's challenges.



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# EXPERIENCE AND EXPERTISE

...



**T**he terms experience and expertise are often interchanged, but the truth is they are both unique and equally important. While experience is gained over time through repeated exposure to specific practices, expertise doesn't come as easily, it's also not as easily defined. Experience gives you insights, allows you to forecast and anticipate outcomes. While expertise, in its simplest form is the level at which you apply your experience when you perform a task yourself. It could also be said that expertise is the refined manner in which you chose to conduct your skills. In layman's terms, experience means you've seen and done a lot, expertise means you're good at what you do.

When you joined CSCE you gain exposure to professionals working in the civil engineering industry. Although, you might not realize it at the time, this experience will later prove to be invaluable in the progress of your professional success.

Joining a society or industry related association allows you to experience progressively more specific roles and responsibilities in an expedited manner. Through this process you are able to manage people at a regional level, develop and maintain budgets and work with a board of directors. You can also develop both hands-on project skills as well as soft skills that help you reach success for the organization.

The world is changing every day, so are demands and expectations. As such, you should continue to refine your skills and your experience for your professional development. You must be proud of what you have accomplished to date. As you continue to expose yourself to different ways to grow your experience, you will find that sharing what you have learned is the most satisfying to do. We hope you take full advantage of your role at CSCE to share with others your experience and how it has helped you get to where you are today. We hope you mentor the next generation, while always maintaining the role of learner - because we can all learn more - and often from people and experiences when you least expect it.

Civil engineers are in a career that drives them. You have substantial goals that you are well on your way to achieving - and this is in part due to your membership with CSCE. Not only because it has given you opportunities to prove yourself, but it shows your employer that you are committed to your goals outside of your regular work hours. It shows them that this is not just a job; this is something that you are truly interested in, which in turn for them means that you will be steadfast when the time comes to delivering. ■





# EXPÉRIENCE ET EXPERTISE



Tout change au quotidien : les exigences, les attentes et même le monde. C'est une occasion de se perfectionner et d'acquérir plus d'expérience. Une chose est sûre : vous devez être fier de ce que vous faites. À mesure que vous vous exposerez à différentes façons d'élargir cette expérience, vous serez surtout satisfaits de pouvoir partager vos acquis. Nous espérons d'ailleurs que vous profiterez de votre rôle à la SCGC pour partager votre expérience et montrer comment elle a fait de vous ce que vous êtes aujourd'hui. Nous aimerions que vous soyez un mentor pour la prochaine génération, sans jamais cesser d'apprendre vous-même. De fait, on peut toujours apprendre davantage, souvent au moment et dans des circonstances où l'on s'y attend le moins.

La carrière des ingénieurs civils est motivante. Vous pouvez nourrir des objectifs ambitieux, que votre appartenance à la SCGC vous aidera à atteindre. Aux yeux d'un employeur, celle ci montre en effet que vous avez déjà fait vos preuves et que vous êtes déterminés à atteindre vos objectifs même en dehors des heures de travail. Elle montre que le génie civil n'est pas qu'un gagne-pain, mais un domaine qui vous intéresse, et que vous mettrez volontiers la main à la pâte quand viendra le temps de produire.

Faites ce qui vous motive : c'est le meilleur moyen d'aller loin. Accumulez toute l'expérience possible. Votre expertise sera votre combinaison particulière de compétences, de motivation et de rendement. ■

**Lyanne St. Jacques**Director, Marketing & Communications  
CSCE

# BOTH EXPERIENCE AND EXPERTISE MAKE GOOD LEADERS, IT'S ALL IN THE CONDUCT



It is quite common in most industries that upper management consists of professionals with a lot of exposure to a variety of experience, but little expertise on any particular subject. But is it really a problem? It could be argued that they don't need the skills of a highly trained professional because that is why they have a team to manage, to deliver and ultimately, to apply the skills that they themselves might not have. Despite this, the debate continues.

It turns out that whether you lead from experience or expertise, you have the opportunity to be successful. It's all in how you conduct yourself that matters.

When you decide to move your career towards a leadership role using your experiences, you will likely bring a slew of real world exposure. Perhaps you've been in a similar role for a period of time which has exposed you to the ups and downs of the day to day expectations of the job. Or maybe you've acquired your experience by holding multiple lateral positions. At the end of the day, leaders who lead from experience typically have a solid background in project management, dealing with different personality types, and how to work-around roadblocks. In these situations, while the leader can be very effective in orchestrating a team, they are also more dependent on them to perform technically, and also to bring forward technical understanding that might be beyond their scope of understanding.

The important thing for leaders to remember in these situations is not to try to get up to speed on the technicalities, but rather to listen

and appreciate the challenges of their team and to support them as best they can.

As an expert in the field, you can bring a leadership role a different type of understanding. Sometimes, people work their way up to management positions by building their expertise hands-on and while this type of leader will be faster to pick up on technical challenges, it could be said that they might lack in other areas. Often when someone spends the majority of their time refining their skills in a particular area, they might be less inclined to sharpen their soft skills, for example, that could help them with the general management of people. Another potential risk with this type of management is that while it is an asset to bring technical proficiency to a project, it can easily overshadow the efforts of the broader group and if you're not careful, it can make others withdraw their initiative altogether.

Similar to the leader with experience, in this case the leader needs to be sure to listen to his team. Just because you are an expert doesn't mean there can't be other experts working for you.

The role of a leader is to lead a team to success through proper conduct and communication. Have regular meetings with your team and don't always be the host. Let others lead the conversation and make suggestions for project processes. Have routine brainstorming sessions and keep an open mind. You never know where the next brilliant idea will come from; you may just inspire your team to bring it forward. ■

**Lyanne St. Jacques**Director, Marketing & Communications  
CSCE

# L'EXPÉRIENCE ET L'EXPERTISE FONT DE BONS LEADERS – TOUT EST DANS LE COMPORTEMENT



**T**outes industries confondues, il est courant de voir au sommet d'une hiérarchie des professionnels à l'expérience très variée, qui ne sont toutefois spécialistes d'aucun sujet en particulier. Est-ce un problème? Il n'est peut-être pas indispensable que ces personnes aient des compétences d'expert dans un domaine précis : après tout, elles ont une équipe qui gère, produit et, en fin de compte, met à profit les compétences qu'elles-mêmes n'ont pas. Pourtant, le débat continue.

Peu importe que l'on dirige par expérience ou grâce à l'expertise : le succès peut être au rendez-vous. Tout est dans la manière d'agir.

Si vous choisissez d'orienter votre carrière vers un rôle de direction en tirant parti de votre expérience, c'est vraisemblablement que vous avez eu une exposition variée au « monde réel ». Peut-être avez-vous exercé de semblables fonctions pendant un temps et que vous en connaissez les tenants et les aboutissants au quotidien. Peut-être aussi avez-vous acquis votre expérience au fil de multiples postes parallèles. Au bout du compte, le leader qui dirige par expérience a généralement géré de nombreux projets, a dû composer avec divers types de personnalité et sait contourner les obstacles. Il sera sans doute habile à orchestrer une équipe, mais dépendra d'elle davantage sur le plan technique, puisqu'elle l'aidera à comprendre un contexte qui échappe à ses compétences.

En pareil cas, il serait vain d'essayer d'assimiler les moindres détails. Mieux vaut écouter et mesurer les difficultés auxquelles se heurte l'équipe, afin de l'aider le plus possible.

L'expert du domaine, en revanche, a une compréhension différente de la situation. Certains se hissent dans l'échelle directoriale en développant leur expertise sur le terrain. Ils saisissent peut-être plus rapidement les difficultés d'ordre technique, mais ont quelques lacunes dans d'autres domaines. Une personne qui consacre la majeure partie de son temps à développer des compétences particulières sera peut-être moins encline à peaufiner des compétences générales qui l'aideraient pourtant à diriger des gens. Autre danger potentiel : si les connaissances techniques sont d'indéniables atouts pour la réalisation d'un projet, elles peuvent éclipser les efforts du groupe. Si vous n'y prenez garde, vous pourriez décourager l'initiative.

Comme le leader fort d'une solide expérience, celui qui a mérité son poste grâce à son expertise doit écouter son équipe. Vous n'êtes pas forcément le seul expert du groupe.

Le rôle d'un leader est de mener une équipe à la réussite par un comportement propice et de bonnes communications. Réunissez régulièrement votre équipe et n'assumez pas toujours la présidence de l'assemblée. Laissez les autres diriger la discussion et suggérer des façons de faire. Instaurez des remue-méninges fréquents et gardez l'esprit ouvert. Qui sait d'où viendra la prochaine idée brillante? Votre comportement pourrait encourager les membres de votre équipe à l'exprimer. ■



**Lyanne St. Jacques**Director, Marketing & Communications  
CSCE

# HOW TO USE YOUR EXPERTISE TO GET AHEAD



**A**pplying your expertise in your day-to-day work is a given – but there's so much more you can do with it. Whether you're at the onset of your career or a more experienced professional, there is always opportunity to do more with your skills. Below is a list of ways you can use your expertise to get ahead in your career, but they can also be fulfilling as experiences on their own as well.

## 1 – TAKE INITIATIVE

This is especially important in the early stages of your career. If you want to get noticed – particularly if your goal is to move into a management position – then you have to put yourself out there. Raise your hand at all opportunities to lead a project or get the ball rolling on new initiatives. And here's the thing – it doesn't even matter if you know exactly what to do once you take on these tasks – you can get support and ask questions later. The point is you're willing to try. What is important is that in these opportunities you make it a point to share your knowledge. What are your strengths – play them up big time. Don't try to be the jack-of-all-trades, just focus on being really good at what you do best, and before you know it people will be coming to you to lead the next time around without even asking.

## 2 – TEACH COURSES

It's not always an obvious choice, but another way to apply your expertise is to teach courses in your areas of discipline. What's great about teaching is that, as you teach, you tend to learn even more. While you would be the source of expertise in this case, it is often through questions from pupils that make teachers look at what they know from the new perspective – thus adding to their bank of knowledge. Teaching courses also helps you stay up to date with the latest industry trends, gives you accreditations as required in the civil engineering profession, shows your employer that you are interested in your work even outside of working hours and shows them – and others in the industry – that you are savvy and recognized for what you do.

## 3 – GET PUBLISHED

Whether you're trying to build your portfolio, or leave a legacy, having your work published is something you should feel proud of accomplishing.

Look for opportunities in industry related publications, newsletters and online blogs and bulletins. And of course, don't forget to submit your work for awards and recognition. The funny thing about sharing your expertise is that most people – even those with multiple years of experience – often don't feel like they qualify as an expert and therefore don't feel that anyone would benefit or be interested in what they know. The truth is, there are always going to be people coming into the industry after you, who know less, who might not understand the technicalities of the discipline as well as you do. So if you understand what you do well and can explain it in simple laments terms, then there will always be someone who can learn from what you know. The sense of pride you will have from sharing your expertise with generations to come will be humbling.

## 4 – MENTORSHIP/JOB SHADOWING

Perhaps putting pen to paper isn't for you, but that doesn't mean that you can't share what you know. Sometimes people find it easier to transfer their know-how in person. There are a few different ways to do this but the most common are through mentorship or job shadowing. Both types of experience can be beneficial in different ways; in fact, it would be optimal if you could do a bit of both with each candidate. A mentorship allows two people from different levels of knowledge to have an exchange, ask questions and share expertise. While job shadowing allows someone to experience what you do day-to-day and may even allow them to experience a real-life roadblock and how you go about getting around it. The other thing to keep in mind if you decide to go this route is to keep an open mind to learning, just as when you teach a course. With all of the changes in technology and the way things are done today versus just a few years ago, even experts in the field can learn something from the student and young professionals of the industry.

On a final note, typically, your expertise is not only something that you're good at, but something you actually enjoy doing. So take advantage of that and find ways to do more of it in ways that you find rewarding. If you think of ways to share what you do beyond these examples here, be sure to share them with us on social media or the CSCE HUB. ■

**Lyanne St. Jacques**Director, Marketing & Communications  
CSCE

# METTRE SON EXPERTISE À PROFIT



**M**ettre votre expertise au service de vos tâches quotidiennes, cela va de soi! Mais vous pouvez faire bien plus. Novice ou chevronné, vous pouvez certainement faire fructifier davantage vos compétences. Voici quelques moyens de progresser sur le plan professionnel et de vivre quelques expériences gratifiantes.

## 1 – PRENDRE L'INITIATIVE

Dès le début de votre carrière, si vous voulez que l'on vous remarque et, surtout, si vous visez un poste de direction, il faut absolument vous faire connaître. Levez la main dès que l'occasion se présente de diriger un projet ou de contribuer à une nouvelle initiative. Pour tout dire, peu importe si vous ne savez pas exactement ce que vous faites au début : on vous aidera et on répondra à vos questions. L'idée, c'est de montrer que vous êtes disposé à essayer. Surtout, montrez ce que vous savez. Quelles sont vos forces? N'hésitez pas à les mettre en valeur! N'essayez pas de jouer les touche-à-tout : tenez-vous-en à ce que vous faites le mieux. Vous verrez : la prochaine fois, on s'attendra à ce que vous preniez les choses en main, sans même que vous le demandiez.

## 2 – DONNER DES FORMATIONS

Ce n'est pas toujours évident, mais vous pouvez très bien employer votre expertise à donner des cours sur les volets de la discipline que vous maîtrisez. L'avantage, quand on enseigne, c'est qu'on apprend plus encore. Vous serez une source d'expertise, mais les questions de vos étudiants vous feront voir ce que vous savez sous un autre angle et enrichiront vos connaissances. L'enseignement aide en outre à rester au fait des dernières tendances, vous permet d'obtenir les accréditations requises par la profession, montre à votre employeur que vous vous intéressez à votre domaine même en dehors des heures de travail et lui montre, ainsi qu'à toute l'industrie, que vous êtes habile et qu'on vous reconnaît comme tel.

## 3 – PUBLIER

Peu importe que vous vouliez constituer votre portfolio ou transmettre quelque chose à la postérité, vous devriez être fier de voir votre production publiée. Soyez à l'affût de toutes les occasions : publications, bulletins et blogues spécialisés. N'oubliez pas non plus de présenter votre travail au moindre concours. Curieusement, la plupart des gens, même les plus expérimentés, ne se considèrent pas comme des experts et ne croient pas que d'autres puissent profiter de ce qu'ils savent ou s'y intéresser. Or, il y aura toujours des gens après vous qui en savent moins ou qui ne maîtrisent pas comme vous la technicité de la discipline. Par conséquent, si vous maîtrisez ce que vous faites et pouvez l'expliquer en termes simples, il y aura toujours une personne ravie d'apprendre grâce à ce que vous savez. La fierté que l'on éprouve à l'idée de partager son expertise avec les générations à venir est une véritable leçon de modestie.

## 4 – PROPOSER LE MENTORAT OU LE JUMELAGE

Vous n'êtes pas à l'aise avec l'écriture? Ce n'est pas une raison de ne pas partager vos connaissances. Certains sont plus à l'aise en personne. Il y a plusieurs options, les plus courantes étant le mentorat et le jumelage. Les deux sont fort utiles; idéalement, vous devriez même proposer les deux à chaque candidat. Le mentorat permet à deux personnes qui n'ont pas le même degré de connaissance de discuter, de poser des questions et d'échanger leurs savoirs. Avec le jumelage, vous donnez à l'autre la possibilité de comprendre ce que sont vos activités quotidiennes, voire vos difficultés concrètes et la façon de les résoudre. N'oubliez pas de garder l'esprit ouvert, comme si vous enseigniez. Étant donné la rapidité des progrès technologiques et l'évolution des méthodes en quelques années à peine, même les experts peuvent apprendre des étudiants et des jeunes professionnels.

Au final, l'expertise n'est pas seulement un domaine d'excellence, mais un domaine de prédilection. Profitez-en et trouvez des moyens gratifiants de faire davantage. D'autres exemples vous viennent à l'esprit? Faites-les connaître sur les réseaux sociaux ou sur le Hub SCGC. ■

# 2019 CSCE AWARD WINNERS

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## LAURÉATS DES PRIX DE LA SCGC 2019



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The Canadian Society for Civil Engineering (CSCE) is proud to announce the winners from the annual Awards for Civil Engineering Excellence (ACE) Gala that took place on June 14th, as part of the CSCE 2019 Annual Conference. These honours include 10 Fellowships, 10 Career Awards, 3 Best Papers as well as a 7 project awards for Excellence in Innovation and Government Leadership in Sustainable Infrastructure.

One of CSCE's strategic directions is growing with youth, as was reflected by the theme of this year's CSCE Annual Conference, and further by including the students' awards this year in the ACE gala. These honours include Student Competitions for concrete canoe, steel bridge and Capstone. As well as Student Best Papers, and the President's Award for Best Student Chapter.

Please join us in congratulating all of this year's honours and fellowship recipients.





*(Senator Rosa Galvez receives her  
CSCE Fellowship from CSCE President, Glenn Hewus)*



La Société canadienne de génie civil (SCGC) est fière d'annoncer les gagnants de ses Prix Excellence en génie civil remis lors de son gala annuel, qui se tenait le 14 juin dans le cadre du congrès annuel 2019 de la SCGC. Ces prix honorifiques englobent dix Fellowships, dix Prix de carrière, trois Prix pour la meilleure communication ainsi que sept Prix pour des projets d'Excellence en innovation et Leadership gouvernemental en infrastructures durables.

Une des orientations stratégiques de la SCGC est de croître avec les jeunes. Cette orientation se reflétait dans le thème du congrès annuel de la SCGC cette année, et encore davantage par l'introduction de prix destinés aux étudiants lors du gala de remise des honneurs. Ces honneurs incluent des prix pour des compétitions étudiantes de canoës de béton, de ponts d'acier et conception Capstone. Des prix sont également remis pour les meilleures communications d'étudiants, et le Prix du président vise à reconnaître le meilleur chapitre étudiant.

Nous vous invitons à vous joindre à nous pour féliciter toutes les personnes honorées ainsi que les récipiendaires de fellowships cette année.



## FELLOWSHIPS

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Ashutosh Bagchi, Montreal, QC  
Ghislain Dionne, Laval, QC  
Ken Galm, Edmonton, AB  
Senator Rosa Galvez, Quebec, QC  
Paul Gauvreau, Toronto, ON  
Patrick Lalach, Saskatoon, SK  
Ronald Losier, St. Isidore, NB  
Jean Proulx, Sherbrooke, QC  
Manas Shome, Edmonton, AB  
Susan Tighe, Waterloo, ON

## CAREER AWARDS

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### **A.B. Sanderson Award**

Jeffrey Packer, Toronto, ON

### **Camille A. Dagenais Award**

Ram Balachandar, Windsor, ON

### **Sanford Fleming Award**

Amer Shalaby, Toronto, ON

### **Donald Jamieson Fellowship**

Pedram Mortazavi, Toronto, ON

### **W. Gordon Plewes Award**

Roger Dorton, Willowdale, ON

### **James A. Vance Award**

Gopal Achari, Calgary, ON

### **Young Professional Engineer Award**

Steven Oosterhof, Edmonton, ON

### **Young Professional – Atlantic Region**

Brandon Searle, Fredericton, NB

### **Young Professional – Quebec Region**

Benoit Cusson, Brossard, QC

### **Young Professional – Western Region**

Steven Oosterhof, Edmonton, AB

## BEST PAPERS

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**Donald Stanley Award:** Modelling deformation and strains induced by waste settlement in a centrifuge test. By Kerry Rowe, Yan Yu

**Thomas C. Keefer Metal:** Numerical studies for a better understanding of static ice loads on dams. By Brian Morse, Ekaterina Kharik, Alain Côté, George Comfort, Varvara Roubtsova, Mario Fafard

**Casimir Gzowski Metal:** Seismic fragility analysis of pre-1975 conventional concrete frame buildings in Canada. By Murat Saatcioglu, Abdullah Al Mamun

## EXCELLENCE IN INNOVATION IN CIVIL ENGINEERING AWARD, SPONSORED BY CANAM

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Avenir Centre, City of Moncton, NB

**Regional Award, Atlantic Region** – Avenir Centre, City of Moncton, NB  
**Regional Award, Ontario Region** – Big Data Analytics and Machine Learning for Improved Wastewater System Response Forecasting, York Region, ON

## AWARD FOR GOVERNMENT LEADERSHIP IN SUSTAINABLE INFRASTRUCTURE

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Samuel de Champlain Bridge Corridor, Infrastructure Canada, QC

**Regional Award, Atlantic Region** – Northwest Arm Trunk Sewer Rehabilitation, Halifax Water, Halifax, NS  
**Regional Award, Quebec Region** – Samuel de Champlain Bridge, Infrastructure Canada, QC  
**Regional Award, Western Region** – Town of Gibson Natural Asset Management Plan, Gibson, BC

## CSCE CANADIAN NATIONAL CONCRETE CANOE COMPETITION

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**1st place:** École Polytechnique de Montréal, Montréal, QC

## CSCE CANADIAN NATIONAL STEEL BRIDGE COMPETITION

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**1st place:** École supérieure de technologie, ETS, Montréal, QC

## CAPSTONE COMPETITION

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**1st Place:** University of Ottawa, Ottawa, ON

## STUDENT BEST PAPERS

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### **7<sup>th</sup> International Construction Conference jointly with the Construction Research Congress:**

Framework to Establish the Relationship between Factors Influencing Construction Productivity Using Fuzzy Interpretive Structural Modeling. By Yisshak Gebretekle, University of Alberta

### **7<sup>th</sup> International Conference on Engineering Mechanics and Materials:**

Analytical Modelling of Heavy Timber Assemblies with Realistic Boundary Conditions Subjected to Blast Loading. By Christian Viau, University of Ottawa

### **17<sup>th</sup> International Environmental Conference:**

The Meewasin Northeast Swale: Using Natural Capital Asset Valuation to Value Saskatoon's Natural Resources. By Scott Read, University of Saskatchewan

### **24<sup>th</sup> Annual Hydrotechnical Conference:**

Evolving trends of rain over precipitation in Canadian cold season during the late 20th century. By Shadi Hatami, Concordia University

### **CSCE General Conference:**

Seismic Behavior of GFRP-Reinforced Interior Slab-Column Connection under Gravity and Reversed-Cyclic Lateral Loading. By Mohamed Eladawy, University of Sherbrooke

## CSCE PRESIDENT'S BEST CHAPTER AWARD

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**1st place:** British Columbia Institute of Technology (BCIT), Burnaby, BC

For more details about the above honours and fellowships, please visit our website at [CSCE.CA](http://CSCE.CA).

The CSCE is a not-for-profit learned society created to develop and maintain high standards of civil engineering practice in Canada and to enhance the public image of the civil engineering profession.

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Pour plus d'information sur les prix honorifiques décrits précédemment, nous vous invitons à visiter notre site à [CSCE.CA](http://CSCE.CA).

La SCGC est une organismes sans but lucratif, société savante dont le but est de développer et maintenir des standards élevés de la pratique du génie civil au Canada et de rehausser l'image de la profession du génie civil auprès du public. ■





# Chair of the 18th Global Joint Seminar on Geo-Environmental Engineering

Professor, Dept. Building, Civil, and Environmental Engineering, Concordia University, Montreal, Canada

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The 18th Global Joint Seminar on Geo-Environmental Engineering (GEE) was held on May 30-31, 2019 at Concordia University in Montreal, QC, Canada with more than 70 participants from several countries including Japan, South Korea, France, Canada, Philippines, China, and United States. A large group was from Japan (approximately 25 participants). Across Canada, participants came from as far east as Halifax and as far west as Calgary. GEE has been held annually in Japan, South Korea, France and Canada, and France since its inception in 2001. It was previously held in Canada at Concordia University in 2015 with more than 60 participants. Five papers were selected from the seminar and are included in a special themed issue on geoenvironmental engineering for *Environmental Geotechnics* (Volume 6, Issue 2, April 2019, pp 65-122). This issue, in particular, focused on the challenge of managing contaminants in various scenarios and reusing waste materials.

Financial support for the seminar was provided by Concordia University Office of Research and Gina Cody School of Engineering and Computer and the Canadian Society of Civil Engineering. Non-financial support was provided by the Canadian Geotechnical Society. The main objective is to provide an international forum for the exchange of ideas and recent advances in the field of geo-environmental engineering. It fulfills an important role for this important subject of solving global geoenvironmental problems as there are few conferences organized on this important topic.

The first day of the seminar was initiated by opening remarks from Prof. Masashi Kamon of the Research Institute of Environmental Geotechnics of Japan, a founding member of the seminar series who provided a history of the seminar. This was followed by remarks from the Vice-President of Research and Graduate Studies of Concordia

University, the then president-elect (now president) of the CSCE, Michel Khouday and President of the CGS, Mario Ruel. The key note was given by François Beaudoin of Golder Associates in Montreal based on his expertise in the selection, design and implementation of sustainable remediation techniques and approaches. François Beaudoin is an active member of SuRF Canada, a working group dedicated to the promotion and advancement of sustainable remediation and land management.

A wide variety of 50 papers in 12 sessions were presented at the seminar. The sessions were organized into topics related to waste rock, landfills, remediation (3 sessions), materials, barriers, landfill and barriers, mining and metals, leaching from rocks, soil improvement, geotechnical aspects. Five posters were also presented. The audience included engineers, researchers, and other environmental professionals from universities, research institutes, industry, students, and consultants.

The landfill session investigated landfill waste characterization, compaction of municipal solids waste and methane flux from landfills. The materials session covered the evaluation of wood chips on a converter steelmaking slag, the evaluation of polymeric materials in a temporary storage site at Fukushima, and the use of steelmaking slag as a case course and construction material.

The waste rock session included the reduction of contaminated neutral drainage by oxidation and passivation of sulfides in the waste rock by hydrogen peroxide, using coal ash in concrete, and the importance of maintaining a high water table to reduce waste rock leachate. In the barriers session, the beneficial oxygen fluxes by plant roots in a mining tailings cover



"The sessions were organized into topics related to waste rock, landfills, remediation (3 sessions), materials, barriers, landfill and barriers, mining and metals, leaching from rocks, soil improvement, geotechnical aspects."

were studied, zeolite addition to bentonite was demonstrated as a clay liner for cesium sorption and a bamboo geotextile was effected for soil stabilization.

In the mining and metals session, the effect of dissolved oxygen on saturated mine tailings, a comparison of the leaching of arsenic and selenium from mudstone, and sensing of mercury in aqueous media were presented. In the leaching from rocks session, studies on the effect of slacking on heavy metal leaching from tunnel excavated rock, novel approaches for controlling mine drainage from waste rock piles, determining the effects on leaching from excavated shale rock and hydrothermally – altered rocks were presented.

The soil improvement session included papers on addition of bamboo chips to improve the strength of a high water-content dredged clay, modification of bentonite with guar gum to become a salt-resistant barrier, the recycling of muddy soil for soil reclamation and evaluating the effect of revegetation on the water budget in reclaimed mine wastes.

A variety of topics at lab, pilot and full scales were covered in the remediation sessions. They included ozone micro-nano bubbles for groundwater oil treatment, fluoride treatment with a DCPD stabilizer, arsenic treatment using iron corrosion and sand filtration, comparison of nanoparticles, ferrate and UV for dye removal, evaluation of the dewatering, gypsum and cement-treatment of contaminated sediment, addition of coagulant aids for enhancement electrocoagulation of shale gas water, development of a resuspension method for phosphorus remediation, soil and

water conservation, the use of biosurfactant producing bacteria for oil remediation and using a mobile unit to recover excavated soils for reuse in trench backfill.

Geotechnical aspects compression of excavation soil mixed with converter steelmaking slag, variability of water and LNAPL S-p relation in a sandy soil, and earthquake studies for environmental risk assessment and waste management, evaluation of an adsorptive mixed fill material, and finally the development of a microscale CFD to investigate infiltration induced swelling of a bentonite soil were covered in a session.

In the landfills and barriers session, emissions from landfills, the use of impermeable sheets for leachate control, water infiltration through a landfill biocover, potential exploitation of a landfill for geothermal energy, and reinforcement of concrete with a geogrid were examined.

The second day consisted of a technical tour, lab tours, student awards and a concluding dinner cruise. The technical tour showed "An Environmental Problem to a Benefit to the Population: The Example of the "Complexe Environnemental de Saint-Michel". It was presented by Martin Héroux, ing. Ph. D. of the Ville de Montreal. An old landfill is being rehabilitated into a thematic park.

The second themed issue *Environmental Geotechnics* Journal is planned based on selected papers from this seminar to continue highlighting the importance of solving issues globally in a sustainable geoenvironmental engineering context and disseminating research and practices in order to help the society in providing safe and environmentally friendly solutions. ■



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FOUR WAYS CSCE IS FIGHTING FOR SUSTAINABILITY –  
**GLOBALLY & DOMESTICALLY...**  
**AND HOW YOU CAN TOO**





**A**re the days gone when a young, newly graduated, civil engineer would walk towards an undeveloped piece of land and stop to imagine a new road unveiled ahead? Perhaps, not completely – but they are certainly few and far between. Sure, there are still those who have visions for bigger, faster, better than ever before, but unfortunately, these potential feats are often overshadowed by the need to deal with the lingering impact of previously completed developments – once leaving us awe-struck, now leaving us with a different type of goal altogether.

Michel Khouday, President of CSCE, “CSCE has been fighting for sustainability for some time now – and I’m determined this year to increase awareness.” The only way to bring about change is to share the ideas and ‘be the change’ as they say, that you want to see happen. He goes on to say “while existing infrastructure around the world, imagined and brought to fruition was done with every ounce of good intention to bring ease to our daily lives, the impact it has had on our resources, our environment, global temperatures and other natural elements can no longer be ignored.” The result of these impressions is forging a new vision primarily within four areas of development – resources, sustainability, resilience and asset management. Below is a summary of how CSCE is addressing each of them and how we encourage you to be a part of this change.

## RESOURCES

On a global scale, the Triennial brings together the Canadian Society for Civil Engineering (CSCE), the American Society of Civil Engineers (ASCE) and the Institute of Civil Engineers (ICE). This conference allows engineers, scientists and affiliated experts to discuss world issues, share strategies and learnings and ultimately, bring forward ideas that

can lessen the footprint that people are having on our planet. It also allows for the exchange of ideas around resources. This includes; natural resources and their levels of availability and sustainability, man-made resources and their levels of production and the effects of this on the environment, and finally, refurbishing existing resources whenever possible.

It is commonly known that resources, whether grown naturally or developed through technology, are available at different rates around the globe, and of course that these resources are exported and imported as needed to meet demands. But while we are dealing with the impacts of this production, for a long time the oversight was in the delivery of these goods. Whether by land, air or water, the residual fuels and exhausts are causing Mother Nature to scream, but still today it’s falling on deaf ears. Something needs to be done – not because it’s the right thing to do, but because if we don’t, the land, air and water will no longer be as we know it today.

The Triennial is an opportunity to talk about how we must push the trend of buying local. Glenn Hewus, Past President of CSCE says “we have to come together to make people understand that it’s not affording the biggest, fastest and the best – it’s about affording the next generations to come to have the simplest riches in life, we are all guilty of taking for granted; the trees, the air we breathe and the water we drink every day... Let’s push for recognition – not for the nation with the most grand of developments – but for the nation who can leverage their own local resources to develop sustainable means – and help show others how they can do the same.” Mr. Hewus attended the last Triennial in London, England in 2018 and regretted to share that CSCE was nearly the only representation for Canada on this global podium. The unfortunate part is that Canada is making strides towards



sustainability but as a nation we tend to be humble to a fault – even when our efforts warrant being shared.

CSCE is hosting the next Triennial here in Canada in 2021. Stayed tuned as we will share developments about this conference as soon as they become available – but we encourage you to bring forward your ideas and successes to share on this global platform.

## SUSTAINABILITY

With regards to sustainable development, we, as an industry, are gaining momentum, but the harsh reality is that our global efforts are a far cry from enough. One of the front-running challenges with sustainability is that even within the civil engineering discipline; it is defined and understood in vastly different ways. The good news is that all of them are beneficial to the planet. What needs to happen to expedite these initiatives, however, is a baseline from which everyone can start.

To help with this, a rating system has been implemented in the U.S. called Envision. The ratings system is administered by the Institute for Sustainable Infrastructure, which was founded in 2010 by ASCE in partnership with the American Council of Engineering Companies and the American Public Works Association.<sup>1</sup> This system tracks sustainability aspects of infrastructural development through the planning, development and maintenance levels of the project. In effect, this system touches on all four areas that we are contending with; resources, sustainability, resilience and asset management.

While this system is being readily adopted across the States, it has yet to become the norm across Canada. It has picked up traction in booth the Maritimes and out west, particularly in BC where the locals are known to be very vocal about their green consciousness. Works needs to be done, however, in the prairies and eastern provinces. Representatives from CSCE are making efforts to bring Envision to a legislative level, and we invite all members and non-members alike who can help give this plea the visibility and backing it requires to make this happen. In the meantime, we must leverage our network to spread awareness and strongly encourage participation.

To learn more about Envision and how you can get involved or share this process within your circle of professionals, please visit <https://www.asce.org/envision>.

## RESILIENCE

Here in Canada, we can proudly boast the implementation of the Canadian Infrastructure Report Card (CIRC). Put together by CSCE, the Canadian Construction Association, the Canadian Public Works Association and the Federation of Canadian Municipalities – this report can ‘provide a picture of the health of our national municipal infrastructure foundation and its value across the country.’<sup>2</sup> On the second iteration of this report that came out in 2016 (and understanding that this information is collected on a purely voluntary basis through surveys), it is an incredible accomplishment to have results from 120 municipalities covering approximately 56% of the population’s infrastructure. The third iteration of the CIRC is under development and is planned for release in the fall of 2019. Of course, the goal is to complete the task across our nation so that we can achieve a more comprehensive view of our infrastructure portfolio.

Infrastructural asset management is an essential step in resource management – and truly understanding its resilience. When we better understand the state of our assets, we can better assess what projects should be maintained, what should be removed and what should be newly built. Through these reports we have a better understanding of not only the value of our assets, but the cost of them as well. It is often forgotten that the cost of maintaining infrastructure – including regular assessments for safety, materials and labour costs for maintenance and bringing structures up to new accessibility codes, can sometimes be more costly than building something new. This report will also help to provide timelines and triage resources based on urgency, such as the areas hit hardest by climate change and with the most compromised resilience.

“By working with the CIRC, we can all help to make sure our respective municipalities are accounted for – but also assist by providing a deeper understanding of the true costs to local societies. On a more humane note, this report can also help the civil engineering industry better understand the standard of living across our nation and clearly identify needs versus wants across the country,” shares Nick Larson, CSCE lead for CIRC.

To learn more about how you can help with this initiative, you can contact CSCE at [info@CSCE.ca](mailto:info@CSCE.ca).



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Whether by land, **air or water**, the residual fuels and exhausts are causing Mother Nature to scream, but still today it's **falling on deaf ears**.

#### ASSET MANAGEMENT

Within CSCE, our Asset Management Committee is dedicated to the previously mentioned three areas that need our attention: resources, sustainability and resilience. The committee is determined to work with associations and governing bodies to make sure that engineering work across our nation is completed with conscious decisions around these three aspects of development.

While asset management and sustainability have been talked about for some time now, there's no doubt we will start facing more issues around our resources and resilience. With increasingly dramatic weather conditions, much of which is the result of our own doing, we need to raise the standards and increase stress testing on materials and structures. We have to be prepared for substantial change. Change in the way we work, but also change in the way we live.

Asset management is all about making better and more informed decisions about our infrastructure. It provides elected officials, infrastructure managers and public stakeholders with the information they need to ensure their organizations maximize benefits, minimize risks, and achieve their desired levels of service. Using systematic and objective methodologies, civil engineers are helping elected officials and community stakeholders answer big questions like; Are we sustainable? What is the current state of repair of our infrastructure? How do we mitigate our climate change risks? and What is the most cost-effective way to maintain our assets? Good asset management allows communities to answer these questions (and more) and helps ensure our wonderful communities are sustainably funded for years to come.

To learn more about the Asset Management Committee and how you can get involved, you can contact Mike Benson at [mbenson@rvanderson.com](mailto:mbenson@rvanderson.com).

On a final note, and primarily the purpose of this article, is to show that we all need to agree that communication is absolutely essential in fighting these global issues. Every corner of the world has expertise, and at the same time, every corner of the world has needs – imagine how communication could connect the two and bring about solutions.

#### SOURCES

<sup>1</sup><https://www.asce.org/envision/>

<sup>2</sup><http://canadianinfrastructure.ca/en/about.html> ■



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