

*Experience MATTERS!  
L'expérience, ça compte!*

# CSSE Newsletter



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## President's Editorial

First, I must thank the Board of Directors for giving me the honour of being elected as President.

I also must thank our past President **Malcolm Reeves** for his past leadership and for recognizing that there was a need for change to address our raison d'être and a diminishing membership.



**President Guy Van Uytven**

Consequently, a new study group was formed, under the leadership of **Pieter Van Vliet**, and with the assistance of **Ken Putt** and **Colin Smith**, to evaluate and recommend ways on how our Society could improve connections with our members and attract new members. The result came in the form of an Implementation Action Plan which was submitted and approved by the Board of Directors prior to the AGM.

One significant change to the Constitution and Bylaws approved by the AGM is to let the current 20 year experience Membership requirement lapse and use 'senior in experience and responsibility' to attract experienced and executive younger Members, who are well qualified through exceptional leadership in professional, business, public service, academia or military positions, but who would not meet the existing 20 year experience requirement.

Our new slogan under the Wise Owl logo "*Experience MATTERS! L'expérience, ça compte!*" stresses the extensive experience possessed by our membership which could be helpful in the various society endeavors undertaken by our governments.

A member society of the  
Engineering Institute of Canada  
Une société membre de  
l'Institut canadien des ingénieurs



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## President's Editorial (Continued)

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To better understand who we are and what we do, a new raison d'être chart was developed which can be found by clicking the «About us» tab on this website.

### Recruit a New Member!

If you have a friend who is not a CSSE member, simply refer them to the CSSE website at [www.seniorengineers.ca](http://www.seniorengineers.ca)

Our Society is a society based upon the opinion of senior engineers. Experience matters, and through internal and external communication and discussion we should be able to contribute, to some extent, solving today's technical challenges such as net-zero emissions, the reliability of our power grids, or the expansion of academic research activities, to name just a few.

To achieve this, communication is essential. We encourage communication between members, with other engineering associations, and we encourage submission of learned opinions. The latter need to be submitted for approval to the Board of Directors prior to publication on our website. If a topic is of interest to some members, we can organize a special zoom meeting for further discussion. If you have any ideas how we can make our society more interesting or how to attract more members, please contact me (press the "Contact" tab on the website).

### Changed Your Coordinates?

If you have a new mailing (or emailing) address, please inform the CSSE Administration Office at [administrator@seniorengineers.ca](mailto:administrator@seniorengineers.ca) or (613) 890-9363.

Last but not least, in accordance with our approved Implementation Action Plan, we are looking to appoint a CSSE-SCIS Chief Communications Officer- Outreach and Communications as a new position to oversee the development and implementation of CSSE's digital outreach strategy and communications program. This position is judged to be of vital importance to expand CSSE. It needs to be filled with a person of sufficient gravitas to represent CSSE at the corporate liaison level. We are asking Membership if they are qualified and interested in this position OR if they could recommend someone.

**Guy Van Uytven, P.Eng., MBA, FCSSE**  
President CSSE/SCIS

## National News

CSSE member, **Soheil Asgarpour**, PhD, P. Eng., FCAE, FCSSE, FCIM, was appointed to the Board of Directors of the Council of Canadian Academies / Conseil des académies canadiennes.

**Soheil Asgarpour**, PhD, P.Eng., FCAE, FCSSE, FCIM is President of the Petroleum Technology Alliance Canada and President-Elect of the Canadian Academy of Engineering. Dr. Asgarpour has over 35 years of technical, business, and operations experience in the oil and gas industry, and several private and not-for-profit organizations.



CCA also appointed CSSE member **Sue Molloy**, PhD, P. Eng., who is Founder and CEO of Glas Ocean Electric, a Nova Scotia-based company that converts marine vessels to electric power to reduce emissions and provide vehicle-to-grid opportunities. Dr. **Molloy** is also an Adjunct Professor at Dalhousie University and specializes in sustainable ocean engineering research and education.



**Axel Meisen**, PhD, P. Eng., FCAE, FCSSE presented an update on nuclear fusion power at the June Canadian Academy of Engineering Net Zero webinar on nuclear fission and fusion energy.

**Mina Hoorfar**, PhD, P. Eng., FCSME, MCSSE was elected President of the EIC Constituent Society, the Canadian Society of Mechanical Engineering (CSME) and appointed to the national EIC Council.

**Jerry Cutler**, PhD, FCSSE Presented to the Canadian Nuclear Safety Commission Public Hearing on the Darlington New Nuclear Reactor Project. His Abstract is noted here:

*A radiation scare was created in 1956 to stop development and production of nuclear weapons. Although, international agreements against proliferation have been in place for many decades, the public continues to be misinformed about the health effects of radiation. Ongoing fear of genetic effects and cancers impedes important applications of radiation in medical diagnostics and therapies and blocks social acceptance of nuclear energy. Organisms produce reactive oxygen species (ROS) for redox signaling; however, the ROS cause enormous oxidative damage as a side effect. Powerful protection systems, which manage all types of damage, weaken with time and many diseases of old age appear. A low dose of radiation causes a burst of direct and indirect (radiolysis) damage, which stimulates the protection systems to overreact and produce significant beneficial effects. These include fewer mutations and cancers, with negligible side effects. To enable the reintroduction of low-dose radiation in medical therapies, governments need to examine the evidence of radiation's beneficial effects and communicate the facts to the public. This would allow changes to radiation protection laws and regulations that are based on the precautionary principle, which was adopted in 1960. This commentary provides evidence of beneficial effects and thresholds for the onset of detrimental effects.*

<https://www.nuclearsafety.gc.ca/eng/the-commission/hearings/cmd/pdf/CMD21/CMD21-H4-22B.pdf>



## Engineering History

### The Bamfield Transpacific Cable Termination Station

By: **Tom Tiedje**, PhD, P. Eng., FCAE, FCSSE, FRSC

I visited the old transpacific cable termination station in Bamfield a few days ago now UVic-UBC-SFU-UofC-UofA marine research centre. The original receiving station was a building designed by **Frances Rattenbury**. The first section was 4000 mi to a pacific island. It was built in 1902 and operated until 1962.

Resistance 6 Kohms, capacitance 1.4 millifarads. The Morse code traced a wiggly line on a piece of paper which was read by a trained operator 132 characters per minute or about 10 bits/s. A positive current was a "dot" and negative current was a dash. There were two parallel copper conductors inside a steel sheath 3 or 4 cm in diameter. This project



was instigated by Sir **Sandford Fleming** starting in 1879. He is credited in a plaque at U of T as inventor of standard time. There is a small island offshore Bamfield called Fleming Island. A recent US-HK optical fiber cable carries 1014 bits/s.

Ref: <https://www.bamfieldmsc.com/bmsc-overview/history>

### Oral History Interview project .. well under way featuring CSSE Members

By: Robin Marshall, Michelle Hamilton, Mike Bartlett

The Canadian Society of Senior Engineers is one of 7 constituent societies of the Engineering Institute of Canada (EIC) supporting a new initiative to conduct oral history interviews with senior Canadian engineers. Each society is providing \$750 per year for two years which is matched by EIC and the total again matched by Mitacs, yielding \$45,000 for the project. These funds support interns to research, conduct, and transcribe the interviews: one, Robin Marshall, in the summer of 2021; and two in the summer of 2022. Interviews can be conducted in English or French.

The Mitacs funding reflects a partnership relationship between EIC and Western University's MA in Public History program. Public History is history as it is experienced by, interpreted for, and communicated to, the public. It involves understanding the numerous ways in which people engage with the past and learning how to communicate it to larger audiences through a variety of tools, including exhibits, film, oral history, digital media and historic sites.

The project will generate material to provide a more in-depth narrative of the history of engineering in Canada. It will beneficially inform members of the engineering community, high-

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## Engineering History ... continued

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school students considering engineering careers, and individuals researching historical aspects of Canadian engineering. The Library of Ontario Tech University will permanently archive video recordings and transcripts of each interview. The EIC website, and the various constituent society websites will provide links to audio recordings and transcripts.



*Aeronautical engineer Dr. Karl Doetsch, left, and interviewer Robin Marshall, right*

To date, seven "Narrators" have given 60 to 90 minute interviews describing their significant contributions to Canadian achievements in biological, civil, electrical, geotechnical, mechanical, and dam engineering. So far, three CSSE members have been interviewed: **Karl Doetsch**, FCSSE, **Bruce McGibbon** and **Guy Van Uytven**, FCSSE. An EIC Project Steering Committee recommends potential narrators, who are then recruited using a protocol that has been reviewed and approved by Western's Non-Medical Research Ethics Board.

The breadth and depth of the stories provided by the Narrators is very exciting. We are cautiously optimistic to find new funding to continue the project into 2023 and beyond.

If you want to recommend a possible Narrator, please contact **Mike Bartlett** at [f.m.bartlett@uwo.ca](mailto:f.m.bartlett@uwo.ca).

We gratefully acknowledge funding from the various constituent societies, the Engineering Institute of Canada, and Mitacs. We are also very grateful to the members of the Project Steering Committee and more specifically the support provided by **Guy Gosselin**, P. Eng., Executive Director of the Engineering Institute of Canada and CSSE member **Suzelle Barrington**, Eng., Agr., FCSSE, Chair of the EIC History and Archives Committee.

### Correspondence with the CSSE Administration Office

All "snail-mail" correspondence, including cheques, and enquiries, should be sent to:

The Canadian Society  
of Senior Engineers  
**464 Briar Avenue**  
**Ottawa, Ontario**  
**K1H 5H6**

[administrator@seniorengineers.ca](mailto:administrator@seniorengineers.ca)

Phone calls: 613-890-9363

Dues and donations can be paid securely by credit card by going to the "Members" page at the CSSE website  
[www.seniorengineers.ca](http://www.seniorengineers.ca)

## New Members



**Federica Portoghese**, PhD, Imperial Oil Limited  
Oil & Gas & Energy Transformation, Cold Lake, Alberta, Canada.

Federica is a global energy leader, and a passionate advocate of an economically, environmentally and socially sustainable future for oil and gas and renewables. She leverages her oil & gas and R&D experience, strategic thinking and leadership skills in support of a prosperous and just energy transition future.



**Jan Van Uytven**, Computer Engineer UofM  
Senior site reliability engineer at Change.org

Jan is a senior Site Reliability Engineer (SRE) who is involved with cybersecurity, CI/CD and deploying at scale using containers and Kubernetes. His passions range from investigating new programming languages to deepening his knowledge with Linux and related operating systems. He is deeply interested in (and wary of) how computing increasingly influences society.

## New Dean of Engineering and Computer Science at the University of Victoria – Dr. Mina Hoorfar, a CSSE Member

Dr. **Mina Hoorfar**, an academic leader and engineer known for her inspired teaching, highly collaborative approach to research, and strong advocacy of equity, diversity and inclusion, has been appointed as the next dean of UVic's Faculty of Engineering and Computer Science - the first woman to lead the faculty.

Women currently represent only 18 per cent of the faculty's student body but Dr. **Hoorfar** is passionate about changing that statistic. In support of the goal set by Engineers Canada, the faculty is dedicated to increasing the number and success of women students, which in turn will help increase the percentage of licensed women engineers to at least 30 per cent by 2030. In the coming months, Dean **Hoorfar** will be launching the 2030 Initiative - a wrap-around recruitment and retention strategy to ensure the faculty reaches and surpasses this goal - stay tuned!



Dean **Hoorfar** meets monthly with our CSSE Vancouver Island Engineering Society.





## Regional News

### Victoria, British Columbia

The 2020/2021 season has been like no other. With the pandemic, we all needed to adjust and hence ventured into virtual meetings. Our meeting attendance increased to over 60 participating through Zoom™. Our partnership with EGBC has never been so strong as our events are formally recognized for Professional Development (PD) credits based on the quality of our presenters. It was also possible to be joined by attendees from across the country and even Australia.

The most recent publication of BC's plan for opening up suggests we may well be allowed to have meetings in person by next October. It is our intent to hold these as hybrid meetings with attendance both in-person and via Zoom™. In addition, we will introduce a touchless payment system including payments through the website directly. At the end of the summer, we will provide a detailed report on how this will all come together.

The CSSE Vancouver Island Engineer Society (VIES) Board has been working actively with UVic Engineering & Computer Science Dean **Hoorfar** on areas of active and prospective collaboration between VIES and UVic's Engineering Faculty and new initiatives will be presented as they mature.

The slate of candidates for the Board was approved at the AGM and we look forward to another year of leadership by **Murray Gray**, PhD, P. Eng., FCAE, FCSSE, FEIC, FCIC.

### 01 October 2021 Victoria's Ocean Futures Innovation Hub (on Zoom™ @ 1130-1300 PST)

Our first speaker this year will be **Julie Angus**. **Julie** is the CEO and cofounder of Open Ocean Robotics, a marine robotics and data analytics company. She is a bestselling author, scientist and explorer who received National Geographic's Adventurer of the Year award when she became the first woman to row across the Atlantic Ocean from mainland to mainland. She is a keynote speaker who has inspired hundreds of corporate audiences sharing lessons in leadership, teamwork and overcoming challenges. **Julie** has written three books, has a graduate degree in microbiology and is a serial entrepreneur who cofounded two previous ocean-focused businesses. **Julie** is a director on NATO's Maritime Unmanned System Initiative Innovation Advisory board and a board member for the Centre for Ocean Applied Sustainable Technologies (COAST). In 2020 she was awarded Innovator of the Year by BC Business and in 2021 she was recognized as Industry Icon by the BC Cleantech Industry. In addition to business awards, **Julie** has been recognized in the realm of science, writing, and exploration. These accolades include University of Victoria's Distinguished Alumni Award, McMaster University Young Alumni Award, North America's Leading Adventurer by Explore Magazine, One of Canada's Greatest Women Explorers by Canadian Geographic, Royal Canadian Geographic Society Fellow and many others.

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## Regional News ... Continued

*(Continued from page 7)*

### Victoria, British Columbia ... continued

All CSSE members are invited to attend any of our meetings this year through Zoom™ if you don't happen to be in Victoria. We publish a monthly newsletter and if you wish to receive that directly please send a note to **Robin Black** [rcbandassoc@shaw.ca](mailto:rcbandassoc@shaw.ca) to be added to our mailing list.

### Upcoming speakers:

- |              |  |
|--------------|--|
| November 5th | Small Modular Reactors (SMRs)<br><b>Brent Smith</b> P.Eng., FEC FCAE FCSSE<br>Manager, Engineering Strategic Planning<br>New Brunswick Power             |
| December 3rd | The Emerging Hydrogen Economy<br><b>Dr. David Layzell</b> , Professor and Director<br>Canadian Energy Systems Analysis Research<br>University of Calgary |

### Manitoba

CSSE Manitoba had a webinar in June provided by **Brent Smith** titled "Small Modular Reactors: Planning Power Potential for Canada" highlighting their development and the collaborative arrangement between New Brunswick, Ontario, Saskatchewan, and Alberta.

## Net Zero 2050: Rhetoric and Realities

*An article by the Graduate School of Public Policy*

In November 2020, the federal government signaled its intention to move Canada's economy to net zero greenhouse gas (GHG) emissions by 2050, tabling the Canadian Net-Zero Emissions Accountability Act in the House of Commons. A daunting challenge, as Canada is not on track to meet even its softer, non-binding Paris Climate Accord target of a 30 per cent reduction in GHG emissions from 2005 levels by 2030.

Assuming that setting a goal will therefore make it inevitable, involves considerable wishful thinking. In practice, achieving Net Zero 2050 requires changing both structure and modus operandi of our societies, forcing systemic electrification and eliminating hydrocarbons. Absent from the political rhetoric is whether existing energy alternatives to hydrocarbons allow us to rationally undertake such a transition. Broad, compelling evidence suggests not.

Read the full article at <https://www.schoolofpublicpolicy.sk.ca/research/publications/policy-brief/net-zero-2050-rhetoric-and-realities.php>





## On Cold Iron – How the Iron Ring Ceremony came about

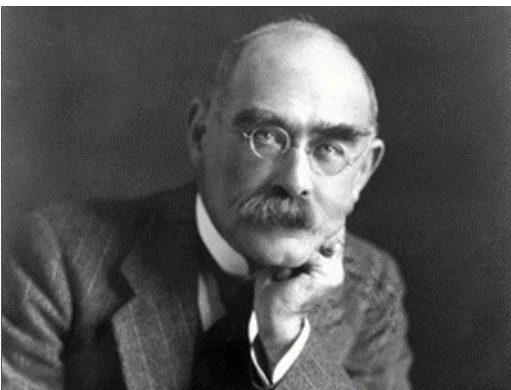
An article by *The Calgary Herald*

The book tells two stories — the first is about how the ritual came into being and the second is about the collapse of the Quebec Bridge on Aug. 29, 1907, that killed 76 men, and shook the Canadian public. The ritual would have never existed were it not for Canadian mining engineer and University of Toronto professor, **Herbert Haultain**. With the blessing of the Engineering Institute of Canada, **Haultain** and 6 other engineers, were tasked with coming up with an oath and ceremony. On the same year that the bridge collapsed, **Kipling** — best known for *The Jungle Book* and poems including *Mandalay*, *If*, and *Gunga Din* — won the Nobel Prize for Literature, making him the youngest person to date, at the age of 41, to have ever won that prestigious prize.



**Dan Levert**, professional engineer and author of *On Cold Iron* poses for a photo with a framed copy of the "obligation" he took to receive his iron ring.

PHOTO BY DEAN PILLING/POSTMEDIA



**Kipling**, author of the Iron Ring Ritual

Prof. **Haultain's** letter asking **Kipling** was dated Oct. 19, 1923 and "It would have taken five to 10 days for it to reach England," writes **Levert**. "**Kipling's** response was dated November 9th. **Haultain** had been absent from his office for two weeks, and when he returned on November 27th, the package from **Kipling** was sitting on his desk. He opened it and couldn't believe what he saw — it was beyond anything he had ever imagined or hoped for. It was titled "The Ritual of the Calling of an Engineer". The

text had been hand-written in Old English lettering by the great author himself. **Haultain** was speechless. He sat down and read every word, in awe of what the great **Rudyard Kipling** had accomplished. The package included the Obligation, the text and a description of the Ceremony, a detailed description of the Iron Ring and how it was to be worn, together with notes about the Ritual. **Kipling** preferred the word 'Obligation' to the word 'Oath' or 'Creed'. The renowned author had taken less than two weeks to come up with the entire package."



Debris from the Quebec Bridge that collapsed on Aug. 29, 1907, killing 76 men.

PHOTO BY NATIONAL ARCHIVES OF CANADA

Read the full article at <https://calgaryherald.com/news/local-news/corbella-16>

## CSSE-SCIS Strategic Implementation Action Plan Approved!

At the June 1, 2021, CSSE-SCIS Annual General Meeting, the Members approved the proposed CSSE-SCIS Strategic Implementation Action Plan. The meeting took place by ZOOM™ conferencing technology. The meeting was well attended by Members from across Canada. The video Strategic Plan was enthusiastically supported and approved by the Members present.

During the past several years, the decline in Membership in CSSE-SCIS has been identified as financially unsustainable in the long run. A new approach was needed to reach potential new Members and in enhancing the manner in which we communicate in today's electronic and digital e-world with the wider Canadian Engineering community. The goal of this first CSSE-SCIS Strategic Plan is to revitalize our programs and re-brand our image as a vital part of the community of Canadian engineering organizations and, in the process of these collective efforts, capture the interest and participation of a younger population of experienced engineers, under the new banner of **Experience MATTERS!** *L'expérience, ça compte!*

The CSSE-SCIS Strategic Communications and Outreach Plan projects a multi-prong approach to achieve the Society's goal of revitalizing its programs and re-branding its image to encourage and stimulate the much needed growth of new Memberships and strengthening of its programs.

Firstly, to project a revitalized image through the adoption and registration of the new slogan or motto of **Experience MATTERS!** *L'expérience, ça compte!* and to be used on all CSSE-SCIS correspondence superimposed on the Society's Wise Owl Trade Mark, shown above.

Secondly, to drive the development and implementation of CSSE's digital outreach strategy and communications program, headed by a new position of a CSSE-SCIS Chief Communications Officer, a new Outreach and Communications Chair.

Thirdly, explore and form communication liaisons with Engineers Canada and their provincial affiliates, the Canadian Academy of Engineering, the Engineering Institute of Canada and possibly other Engineering organizations.

Fourthly, change the current 20-year experience membership requirement to "senior in experience and responsibility" to attract experienced and executive younger Members.

Fifthly, on the operations side of the organization, the CSSE-SCIS Strategic Operations Plan calls for defining the roles and assigned responsibilities of each elected Officer and Committee Chairs to ensure the continuity and efficiency of CSSE-SCIS's ongoing programs.

A new Raison d'être Chart, clearly outlines in a strong visual form the three pillars of activities of CSSE-SCIS. They are: Promote Engineering Education, Promote Intellectual Exchange and Fellowship, and Recognize Engineering Achievements. This chart will appear in the "about us" tab of the Webpage.

The process of defining a Strategic Communications and Outreach Plan followed by a Strategic Operations Plan began shortly after 2020 Fall Meeting of the Members, with the first documents being issued in February and March soliciting comments from the President and others. Over the following three months this Plan was refined to what is considered suitable for the size of the Society as it is today and strives for future growth.

This work was led by a team of three former presidents of Engineers Canada and the Engineering Institute of Canada (EIC) and a renowned international consulting engineer, President-elect **Guy Van Uytven**, P.Eng., FCSSE, including **Ken Putt**, P.Eng., FCSSE, **Colin Smith**, P.Eng., P.E., FCSSE, and **Pieter Van Vliet**, P.Eng., FCSSE.