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# CSSE Newsletter



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## President's Editorial

It appears (at the time of writing) that another Canadian winter is behind us. Looking out my little window in New Brunswick in the traditional territory of the Wolastoqey and Mi'gmaq, and from my perspective, winters are not the same anymore. From wherever you experienced winter, you probably had the same observation. So, welcome Spring.

In my Winter message, you may recall we discussed the status of the website needing some work. I am pleased to say that out of a recommendation at our January Board meeting and with his acceptance, **Allan Pollard** from Manitoba is now the CSSE Webmaster. The initial focus has been on the website clean-up and issues around structure. The follow-up will be to advise on Cybersecurity, Public vs. Private access, dealing with archived material and assessing potential resource needed to try and maintain a French language site with quality translation services. Updates and revisions have been ongoing, and I invite members to visit the site, browse around, and offer up any suggestions for improvements as **Allan** continues updating the site and its content. I would be remiss if I did not acknowledge the years of personal commitment and sacrifice from **Andy Jones** as the previous webmaster. **Andy** built the foundation from which we are building on going forward.

Also, in the Winter message I raised the notion of increasing the CSSE's voice, using our collective experience, because our voice is needed in discussions that influence public policy, and the best way for CSSE to be part of the conversation. This was discussed at length at our January Board meeting, with no clear-cut solutions provided, as one can imagine with such a broad vision. I expect the dialogue to continue and in the near term some suggestions to make it happen.



President Brent Smith

## President's Editorial *(Continued)*

We did acknowledge that one way to leverage our collective voice and to best represent the organization and its goals, rather than individual opinions, is to focus on CSSE local branches/chapters. Many are already very active, but other areas of the country are not as well represented. In 2023, we look to focus on these areas that may be lagging and provide support where we can, to get these chapters established.

Please mark your calendar for our Annual General Meeting of members on May 11, 2023. This will be preceded by a Board of Directors meeting on the same day.

After consideration and based on the President's recommendation out of his action from the 2022 AGM, CSSE will stay with a virtual meeting and AGM in 2023. In person meetings present higher cost, lower participation. This generally results in less fellowship activity. The Board Consensus was to support this assessment with the added on-going health risks. Also, some key points to consider going forward, include:

- Awards be given out at local events in the presence of peers as was done with recent awards. President and Chair of the Honours and Awards Committee could attend virtually. Ensure of a photo op of award honorees and local presenters.
- Consideration for local chapters to manage face to face events but Virtual or other methods for national. This requires more information on the website to focus on local chapters to show the CSSE is a distributed organization through the chapter rather than a centrally controlled and directed organization.

Related, CSSE Director's Vice President East and West roles are both vacant, as well as the Communications Chair positions. If you would like to volunteer for either of these roles, please contact the Nominations Committee Chair, **Guy Van Uytven** [guyvanuytven@shaw.ca](mailto:guyvanuytven@shaw.ca) or Vice Chair, **Ken Putt** [kwputt@shaw.ca](mailto:kwputt@shaw.ca).

As always, a special and heartfelt thank you to **Suzelle Barrington**, ing., Agr., Ph. D., FCSSE, FCAE, FCSBE, FEC, FEIC, for putting this and all our Newsletters together, as she has done for the past 4 years, and to **Ken Putt** for assisting in editing the Newsletter.

I look forward to the Annual Meeting, and your participation in helping us move forward.

**Brent Smith** P.Eng., FCAE , FCSSE, FEC, President CSSE/SCIS

## CSSE Fellowship Awards for 2023

Elizabeth Croft	Victoria, BC	Toby Lau	Vancouver, BC
M. Jamal Deen	Hamilton, ON	Jianbing Li	Prince George, BC
John Doering	Winnipeg, MB	Afzal Suleman	Victoria, BC
Rishi Gupta	Victoria, BC	Stephen Whitelaw	Vancouver, BC
Kevin Hall	Victoria, BC		& San Rafael, CA

## Canadian Academy of Engineering – Upcoming Activities



For more information and registration, visit on CAE activities, visit <https://www.cae-acg.ca/2023-conference>.

## CSSE's New Webmaster: Alan Pollard, P.Eng., FEC

**Alan** received his B.Sc. E.E. from the University of Manitoba in 1976 and worked as a mobile telephony engineer back in the early days when you pretty much needed a car attached to your phone to make calls. Later work at the Telephone Company in Manitoba, the name of which was subject to change without notice, included alarm service & equipment development, hardware & firmware development for both telephony and high-speed data communications and network planning for emerging services. After 22 years, **Alan** left to work for lawyers, voluntarily, as director of technology for the Law Society, which is the regulator of lawyers as EGM is the regulator for engineers and geoscientists. Having succeeded in getting some lawyers to give up quill pens, but not apparently FAX machines, he eased into retirement as a consultant before retiring completely in 2021. He now spends his time with STEM related non-profits such as the Manitoba Robot Games and the Engineering and Geoscience Education Foundation and is webmaster for both. During all this he found time to run for Council of EGM, back when it was APEM and was elected president in 2000. Having not learned enough, he ran again in 2022 and is currently on Council. He was introduced to CSSE by **Dave Ennis** and has both attended and presented at local meetings. You can reach Alan at [webmaster@seniorengineers.ca](mailto:webmaster@seniorengineers.ca).



### 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)

### 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: 613-795-9363

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)



## CSSE Headquarters News

### MAY BOARD MEETING

CSSE will be holding a virtual Board Meeting on May 11, 2023, at 13h00 (Ottawa) Eastern time.

#### Zoom details for the Board Meeting

Join the Zoom Board Meeting

<https://ucalgary.zoom.us/j/95302148587?from=addon>

Meeting ID: 953 0214 8587

One tap mobile

+17789072071,,95302148587# Canada

+17806660144,,95302148587# Canada

Dial by your location

+1 778 907 2071 Canada

+1 780 666 0144 Canada

+1 204 272 7920 Canada

+1 438 809 7799 Canada

+1 587 328 1099 Canada

+1 647 374 4685 Canada

+1 647 558 0588 Canada

### MAY ANNUAL GENERAL MEETING

CSSE will be holding a virtual Annual General Meeting on May 11, 2023, at 15h00 (Ottawa) Eastern time.

#### Zoom details for the Annual General Meeting

Join the Zoom Annual General Meeting

<https://ucalgary.zoom.us/j/97222684370?from=addon>

Meeting ID: 972 2268 4370

One tap mobile

+12042727920,,97222684370# Canada

+14388097799,,97222684370# Canada

Dial by your location

+1 204 272 7920 Canada

+1 438 809 7799 Canada

+1 587 328 1099 Canada

+1 647 374 4685 Canada

+1 647 558 0588 Canada

+1 778 907 2071 Canada

+1 780 666 0144 Canada

## CSSE Charitable Donations Committee

The CSSE Charitable Donations Committee, comprised of Dr. **Chan Wirasinghe**, FCSSE, Chair, and members Dave Ennis, FCSSE, and Ken Putt, FCSSE, met twice during 2022 to establish the criteria against which future charitable donation requests and traditional donations would be measured.

The Committee is currently assessing the preferred scholarship program recipient at the Canadian Engineering Memorial Foundation (CEMF) as our past CEMF scholarship recipient program, the Marie Carter Memorial Scholarship, has expended all of its past funding and been wound up. The Committee will review whether to redirect the Board -awarded \$1,000 from 2022 to either the 'CEMF Ambassador Undergraduate Award' or the CEMF 'John Evans Engineering Entrance Award.' John Evans, FCSSE, a Past President of Engineers Canada, was the CSSE President when he unexpectedly died.

By **Ken Putt**, Member the Committee, P. Eng., FCSSE



## Making Good on the “CSSE Advantage”

**Bruce Peachey, FEIC, FCIC, FCSSE, P.Eng.**

At the January 2023 Board of Directors Meeting, **Dave Ennis** raised the issue that the CSSE should move forward with making good on the “CSSE Advantage”. He made the point that: “the CSSE has the advantage of having members who are mostly retired and can say what they want on a wide range of topics.” There are many complex technological issues in our society today which are being “dumbed down” or viewed through “rose coloured glasses”. The CSSE could become more valuable to society, and valued by the CSSE membership, if we can be more effective at presenting an unbiased engineering viewpoint.

To do this we need to be seen as a trusted and reliable source of “sober second thought” or a “voice of reason”, the challenge for us is in determining how we can do this. The “Papers” tab on the CSSE website was intended as a start to this type of effort. “Energy Compass 2020 and Beyond - A Recommended Canadian Energy Decision Framework” from October 2010 (lead author **Arnold Eyre** FCSSE) was stated as being the position of the CSSE on a very important topic to all Canadians. This document is still very relevant and applicable today, but have we built on this great start enough? Who in current governments are aware of this excellent work? Are there other topic areas where we can and should provide similar input such as on water, land use, urban design, etc.

It will not be an easy task. There may be a number of roles the CSSE can play if we can build a systemic process for capturing our knowledge and experience and displaying it. Potential functions we could cover:

1. **Education** - That is the main objective of our society. We provide educational opportunities through presentations which we could display on the website by implementing a standard for capturing the content with the support of the presenters and branches. While continuing to promote our support for STEM activities.
2. **Inform** - Make people aware of issues that are not widely understood or where facts have been blurred by hype. These could be commentaries or papers by groups of members, and potentially endorsed by the general membership to show our consensus.
3. **Provide Opinions** - Trigger public and knowledgeable discussion where issues cannot be distilled down to proven facts or technological knowledge. In these cases it might be useful to give members a way to express their own opinions and perhaps have a way for members to show support for opinions which best match their own experience and knowledge.
4. **Influence** - Suggesting potential directions or priorities to educate policy makers as to potential options open to them.

*(Continued on page 6)*

## Making Good on the “CSSE Advantage” *Continued*

What next? - I have volunteered to put together a document to flesh out these ideas and have already received some thoughts, but the more input we get the more we will be able to call it “Our Advantage”. So feel free to send me your thoughts through [info@seniorengineers.ca](mailto:info@seniorengineers.ca) or [newparadigm@shaw.ca](mailto:newparadigm@shaw.ca).

**Bruce** graduated from the University of Saskatchewan in 1976 with a B.Sc. (Chemical Engineering). With Esso resources at Cold Lake, he was Technical Services Superintendent before being transferred to Edmonton to hold the position of Senior Facilities Engineering Specialist for the region. He went on to start his own company New Paradigm Engineering. He has worked on a wide range of projects related to the recovery of hydrocarbon resources with emphasis on developing and implementing new technologies to address environmental and sustainability concerns. He has received 5 patents for his work. Bruce was a founding member of the Petroleum Technology Alliance Canada (PTAC) and has provided yeoman service to the Canadian Society for Chemical Engineering (CSCHE), and the Canadian Society of Senior Engineers.



## Members in the News

### Digvir Jayas, P. Eng., FCSSE.

Dr. **Digvir S. Jayas** will begin the role of president & vice-chancellor of the University of Lethbridge on July 1, 2023.

Born and raised in India, Dr. **Jayas** earned a Bachelor of Agricultural Engineering at G.B. Pant University of Agriculture and Technology and went on to complete a graduate degree and PhD in agricultural engineering at the Universities of Manitoba and Saskatchewan, respectively. He began teaching at University of Manitoba in 1985, eventually ascending to the position of Vice-President (Research and International), which he held for 12 years.



An internationally renowned researcher, Dr. **Jayas** studies the drying, handling and storing of grains and oilseeds, and digital image processing for grading and processing operations in the agri-food industry. From 2002 to 2009, he was a Tier I Canada Research Chair in Stored-Grain Ecosystems, and in 2009 was inducted as a Fellow of the Royal Society of Canada. In 2018, Dr. **Jayas** was appointed an Officer of the Order of Canada.

Married to his wife **Manju** for 40 years, they have three sons and five grandchildren, all living in Winnipeg.

## Members in the News (Continued)

### Guy Van Uytven, P. Eng., FCSSE

On 27 February CSSE Past President **Guy Van Uytven**, FCSSE, gave a presentation to the **Macrogrid Initiative of the American Council on Renewable Energy (ACORE)** which was enthusiastically received by their international audience of power grid and utility executives.

The presentation was made upon invitation by ACORE and deals with HVDC and the Need for a North American Macro Grid. Inter-regional HVDC links are a high priority for the US Administration as well as to the Canadian Government and the topic may be of interest to our members.



The presentation can be found on our web page under the "Papers" tab at <https://seniorengineers.ca/csse/papers/>

### Suzelle Barrington, Eng., Agr., Ph. D., FCSSE, FCAE, FEC, FCSBE, FEIC

**Suzelle Barrington** is the author of the article **Historical development of subsurface drainage in Quebec from 1850 to 1970**.

The article is available in both French - <https://doi.org/10.7451/CBE.2022.64.1.15> - and English - <https://doi.org/10.7451/CBE.2022.64.1.1> - on the web site of the Canadian Society for BioEngineering and the Engineering Institute of Canada.





## Regional News

### Manitoba

#### Decolonizing Engineering - Conference held on Feb 16, 2023

The Manitoba Chapter of the Canadian Society of Senior Engineers (CSSE) invited **Randy Herrmann, P.Eng., FCAE, FEC**, to speak about 'Decolonizing Engineering'.

ENGAP has graduated 158 engineers of Indigenous heritage who have gone on as examples of the importance of engineers who share the cultural heritage of Indigenous Peoples. **Randy** is widely recognized as a leading Canadian authority on programs that support Indigenous Peoples, particularly those from isolated communities, as they pursue engineering degrees. He has collaborated with Engineers Canada on its national initiative of promoting Reconciliation in Engineering.

This is a learning opportunity for non-indigenous engineers to broaden their insight and awareness; to incorporate Indigenous ways of being and ways of knowing, and to help create positive solutions for Indigenous communities seeking economic independence.

**Randy Herrmann** is Métis and holds a B. Sc. in Geological Engineering from the University of Manitoba. He is the Director of the ACCESS Programs at the University of Manitoba where he helps aboriginal students achieve their dreams of higher education.

Randy would like to see more economic prosperity within First Nation Community. He believes that this will occur when there are more engineers to lead the way.

For more information: <https://www.aboriginalaccess.ca/adults/role-models/herrmann>



### Alberta

#### CSEM/CSSE Calgary February Luncheon - Review of Net Zero Policies

Guest speaker: **Ken Gregory, P.Eng.**, Director, Friends of Science

The USA, Canada, and 120 other countries have set a target to reduce greenhouse gas (GHG) emissions from fossil fuel use to Net Zero by 2050.

The goal of the Net Zero policy is to reduce greenhouse gas emissions or offset these generated emissions so that the net GHG emissions are zero by 2050. This requires replacing fossil fuels with wind, solar and energy storage, in order to generate electricity, heat your home and buildings, and fuel your transportation. As well as utilizing CO2 offset technologies like carbon capture and storage (CCS.)

What are the social and economic impacts of pursuing these emission reduction targets and what are the costs associated with trying to achieve these goals? Ken has reviewed various Net Zero proposals and has evaluated their economic costs and impacts. His presentation reviewed his findings, and discussed their implications for the local, USA and Global economies.





## Regional News (Continued)

### CSSE Edmonton Branch

The Edmonton Branch continues to hold approximately 8 monthly noon hour talks each year virtually on a zoom platform since suspending in person luncheons at the beginning of the Covid lockdowns. Speaker topics have ranged from discussions on the Global Water balance, needed improvements in the Math Curriculum in public schools, changes to the University of Alberta Engineering program, the development of Utility Scale Solar installations, to the advantages an Engineering background brings to Municipal politics. Recently we have opened the program up to CSSE members and friends in Calgary and IEEE Canadian life members.

For further information contact Ken Porteous [kennethc@ualberta.ca](mailto:kennethc@ualberta.ca), Andy Jones [stonyjones@ieee.org](mailto:stonyjones@ieee.org) or Tom Madsen [tcmadsen@telus.net](mailto:tcmadsen@telus.net).

### British Columbia

Eight members (seven CSSE Fellows) of the CSSE'S Vancouver Island Engineering Society (VIES) attended a University of Victoria celebration of the Engineering Students' OrcaSat club who's mini satellite was sent to the International Space Station (ISS) and then put into orbit recently.



VIES Director and CSSE Member **Ray Brougham's** firm Rainhouse, was one of the OrcaSat Club's financial sponsors. Engineering Student Clubs from UBC and SFU contributed to the final product, originated at UVic.

### Vancouver Island Conference - April 2023

Commercializing Transition to Net Zero, with Dr. **Dan Wicklum**, CEO, Transition Accelerator, Calgary.

Dr. **Dan Wicklum** has spent more than 25 years performing and managing research, driving innovation, and fostering collaboration between industry, government, academia, and civil society. He is the CEO of the Transition Accelerator, a pan-Canadian charity that works with groups across the country to solve business and social challenges while building in net zero emission solutions.

For more information: <https://transitionaccelerator.ca/team/dan-wicklum/>



## Regional News (Continued)

### Vancouver Island Upcoming Conference

May 5, 2023, **Developing Coastal Monitoring Intelligence Systems**, with Dr. **Scott Beatty**, CEO of Marinelabs, Victoria.

**Scott Beatty** received the B.A.Sc. degree in mechanical engineering from the University of British Columbia, Vancouver, BC, Canada, in 2003, and the M.A.Sc. and Ph.D. degrees in mechanical engineering from the University of Victoria, Victoria, BC, Canada, in 2009 and 2015, respectively. He is the Founder and the CEO of MarineLabs Data Systems, Inc., Victoria.



For more information: <https://ieeexplore.ieee.org/author/37088527319>

The VIES hosts, jointly with EGBC, a monthly Technical Speaker Series. The monthly Notice of Invitation to these Zoom™ presentations is distributed to the CSSE nationally, to the Canadian Academy of Engineering, to the EIC Council, the CSME Technical Section Heads, to all CSEM members and to Associates of the Bowman Centre for Sustainable Energy (BCSE).

To attend virtually, or be added to the VIES distribution, please email CSSE Director, Dr. **Robin Black**, FCSSE, at [rcbandassoc@shaw.ca](mailto:rcbandassoc@shaw.ca) or register through the VIES website at [www.viengsoc.ca](http://www.viengsoc.ca).

Missed and Past VIES Zoom™ speaker presentations may be accessed on the VIES Website at [www.viengsoc.ca](http://www.viengsoc.ca).

## Articles of Interest

**Book Review**, by **Esam Hussein**, Ph.D., P.Eng., FCSSE, Retired Dean and Professor Emeritus, Faculty of Engineering and Applied Science, University of Regina, SK, Canada.

Book: **Dan Levert**, [On Cold Iron: A Story of Hubris and the 1907 Quebec Bridge Collapse](#), FriesenPress, Victoria, BC, March 12 2020.

This is a page-turning book that makes one relive the story of the collapse of the Quebec Bridge on August 29, 1907. Civil engineers will thoroughly enjoy reading it, but all engineers will recognize human behaviour that they may have encountered in their careers, and hopefully avoid the pitfalls of overconfidence, arrogance, and the dismissal of the practical views of field workers.

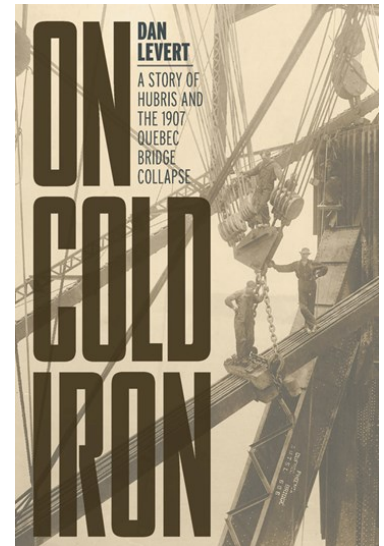
The first three chapters review the history of the Ritual of the Calling of an Engineer and dismisses the myth that early iron rings were made from material salvaged from the bridge. It emphasizes, however, that the link between the ritual and the bridge is the moral aspect of humility. The remaining 20 chapters discuss the story of the bridge from concept to design and construction, then its eventual collapse and the findings of the Coroner's Inquest and the Royal Commission Inquiry that followed. The Commission attributed the collapse to "the failure of the lower compression chords "due to their defective design".

The book describes well the technical aspects of the design and construction, but its strength in my view is in describing the human factors. This bridge was to be the world's longest cantilever span

## Articles of Interest (Continued)

bridge, yet its experienced consulting engineer, **Theodore Cooper**, never visited the site during the bridge erection. Yet, **Cooper**, who was stationed in New York, insisted on having the final word. Even **Peter L. Szlapka**, the chief design engineer for the contractor, the Phoenix Bridge Company, deferred to **Cooper** and did not dare to challenge him directly. In the one occasion **Szlapka** disagreed with **Cooper** on a minor point, **Cooper's** reported reply was "[t]here is nobody competent to criticize us". The other senior engineer, **Edward A. Hoare**, the chief engineer for the owner, the Quebec Bridge Company, saw his responsibility as only to "prepare for contracts, see the work carried out, and to make progress reports for payment for contractors". Two early-career engineers, **Norman McLure** and **Arthur Birks**, were also involved in the project. The former was the chief inspector for the owner, and the latter was the resident engineer for the contractor. Before the collapse, **McLure** reported to **Hoare** that deflections (bends) were discovered in the four ribs of a lower compression chord. However, **Birks** was of the view that the bends were already there when they went into the bridge. **Robert Kinloch**, the owner's inspector, not an engineer, expected that something was wrong with the compression chords, but did not expect imminent failure.

An editorial published on March 19, 1908, by the New York weekly magazine the Engineering News, summarized the lessons learned from this collapse by stating "[w]e, all of us, Juniors and seniors alike, need to know more - to test our theories constantly in the light of new knowledge, to welcome such knowledge when it comes, well attested, from any source. Yes, surely the great lesson of this greatest disaster is the lesson of humility". Lessons as valid today as they were more than a century ago.



## And to finish with a laugh

Understanding Engineers - Two engineering students were riding bicycles across a university campus when one said, "Where did you get the great bike?"

The second engineer replied, "Well, I was walking yesterday, minding my own business, when a beautiful woman rode up on this bike, threw it to the ground, took off all her clothes, and said, "Take what you want." The first engineer nodded approvingly and said, "Good choice: The clothes probably wouldn't have fit you anyway."

Understanding Engineers 2 - To the optimist, the glass is half-full. To the pessimist, the glass is half-empty. To the engineer, the glass is twice as big as it needs to be.

Understanding Engineers 3 - Normal people believe that if it ain't broke, don't fix it. Engineers believe that if it ain't broke, it isn't sufficiently complex yet.

### And Finally (in support of women engineers)

Two male engineers were standing at the base of a flagpole, looking at its top. A woman engineer walked by and asked what they were doing?

"We're supposed to find the height of this flagpole," said Steve, "but we don't have a ladder."

The woman engineer took pliers from her purse, loosened a couple of bolts, and laid the pole down on the ground. Then she took a tape measure from her purse, took a measurement, announced, "21 feet," and walked away.

One of the male engineers shook his head and laughed, "A lot of good that does us. We ask for the height and she gives us the length!"

Both engineers have since quit their engineering jobs and have been elected to parliament.

Thank you to **William Altimas** for some humour.