



Volume 48 • November 2019

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Tanxishan Glass Landscape



Message from the President



David Harvey, P.Eng.
SEABC President

FIU Bridge Failure

Like many of you, I have been following with great interest the story of the Florida International University bridge and its tragic failure during construction on March 5, 2018. Recently the National Transportation Safety Board published its abstract report which contains 30 findings. NTSB Chairman Robert Sumwalt noted that every party shares a piece of the responsibility – that there were errors up and down the line.

The emergency response effort, along with the material and equipment in use were not faulted; however, the Board blamed the Florida Department of Transportation, the University and Bolton, Perez and Associates Consulting Engineers for failing to close the road under the bridge when it became apparent that cracks were continuing to grow and distress in the structure was active. Timely road closure would have prevented many of the fatalities that occurred as a result of the collapse.

The NTSB report criticized the Florida Department of Transportation for failing to call for a comprehensive independent review of a “highly complex and uncommon” design, referring to the peer review by Louis Berger as “inadequate”. The Board felt that an adequate checking and verification process might have prevented the collapse.

However, the Board placed most of its findings squarely on the shoulders of the bridge designer, FIGG Bridge Engineers, noting various design errors, the most pointed of which was the under-design of Node 11/12 for interface shear. FIGG were further criticized for contracting an inadequate peer review, and critically, for taking not recognizing that the load path had been compromised and taking no action to mitigate the risk of failure.

Much has been written on this prominent failure. There are several public statements by the parties to sift through, and the aftermath continues to evolve. The NTSB investigation is strictly factual, and a look at the doomed project’s background is revealing.

The stage may have been set when a large university, a leader in Accelerated Bridge Construction (ABC), desired a signature bridge to showcase its expertise, and let a turnkey contract which included a leading design firm with experience in complex bridges. The included experience with complex bridge design of the peer reviewer was intended to deliver a quality product, although the actual review work conducted was strictly limited. Despite this, failure could have been averted had a robust design been prepared.

Instead, an adventurous design was developed. With their prestressed concrete design background, it is perhaps unsurprising that FIGG produced a ‘cast-in-place’ concrete design; and given the University’s penchant for ABC, that the bridge was constructed on site and moved into place by self-propelled modular transporter units. While, this did not per se cause the collapse, the concept and methodology certainly did not help matters as the concrete distortions during transportation were excessive.

The design still might have worked had it been thorough. However, interface shear capacity between the truss members was lacking. Rapid assessment of the demands indicates several MN of interface shear, yet only nominal stirrups are apparent on the drawings and in photographs of the collapsed structure. Given FIGG’s background, this is astonishing. One can only conclude that experienced design effort and oversight was lacking on this project. Even more surprising is the EOR not recognizing that the severe cracking indicated the structure was progressively failing.

Could the adventurous design have been realized? Erection of a steel-trussed web would have been straightforward, and the concrete flanges could have been added either above traffic or during overnight closures. Not ABC, but a far less risky proposition. And placing the public at risk unnecessarily was apparently not given enough consideration. All told, much ‘food for thought’ for all structural engineers.

2019 Structural Awards



David Harvey, P.Eng.
Struct.Eng.

Hot off the press! The Institution of Structural Engineers has just announced the winners of this year's prestigious competition. The judging panel of 19 world-class structural engineers (including SEABC Director, Paul Fast) was faced with the unenviable task of teasing out the winners from a record number of top-drawer projects from across the world.

Supreme Award for Structural Engineering Excellence

New Tottenham Hotspur Stadium; London, UK
BuroHappold Engineering and Schlaich Bergermann Partner

Award for Tall or Slender Structures

CITIC Tower; Beijing, China
Arup and Beijing Institute of Architectural Design (Group) Co., Ltd

Award for Vehicle Bridges

Kienlesberg Bridge; Ulm, Germany
KREBS + KIEFER

Award for Pedestrian Bridges

Winner: Tanxishan Glass Landscape Pedestrian Bridge; Zibo, Shandong, China
Tongji Architectural Design (Group) Co., Ltd
Commendation: Taplow Footbridge; Taplow, UK
COWI

Award for Long Span Structures

New Tottenham Hotspur Stadium; London, UK
BuroHappold Engineering and Schlaich Bergermann Partner

Award for Small Projects – under £3M

Millet Vinegar Museum; Zibo, Shanong, China
Tianjin University Research Institute of Architectural Design & Urban Planning

Award for Structures in Extreme Conditions

Winner: Turanga; Christchurch, New Zealand
Lewis Bradford Consulting Engineers
Commendation: Claridge's Basement, London, UK
Arup, McGee Group, RKD Consultant

Award for Structural Heritage

Winner: Newquay Harper Footbridge, Towan Beach, UK
Free4m Consulting
Commendation: Century Project: Space Needle Renovation; Seattle, WA
Arup

Award for Structural Transformation

Coal Drops Yard; London, UK
Arup

Award for Construction Innovation

Morpheus Hotel; Macau, China
BuroHappold Engineering

Award for Construction Integration

Victoria and Albert Museum – Exhibition Road, UK
Arup

Award for Structural Artistry (building structures)

Winner: Qingdao World Expo City; Qingdao, Shandong, China
China Architectural Design & Research Group
Commendation: Velvet Mill; Bradford, UK
Price & Myers

Award for Structural Artistry (non-building structures)

Winner: Vessel, Hudson Yards, New York
AKT II

Commendation: Gate of Chongqing Longhu Park; Chongqing, China
XinY & Co-base

Award for Sustainability

La Référence: Ganthier, Haiti
Eckersley O'Callaghan

Many things stood out in the award-winning designs:

- Elegant, ultra-light roof and retractable pitch of the Tottenham Hotspur Stadium
- Continuously curved facade and mega-frame of the ultra-tall CITIC Tower
- Dramatic arch-supported curved deck of the Tanxishan Glass Landscape Pedestrian Bridge
- Taplow Footbridge's delightful simplicity
- Beautiful form and texture of the Millet Vinegar Museum's brickwork
- Clever minimalist renovation of historic Newquay Harper Footbridge
- Coal Drops Yard's charming kissing roofs
- Morpheus Hotel's striking exoskeletal frame
- La Référence school's pragmatic design



Pedestrian Bridges: Tanxishan Glass Landscape



Commendation – Pedestrian Bridges: Taplow Footbridge



Supreme Award Winner: New Tottenham Hotspur Stadium



Tall or Slender Structures: CITIC Tower



Structural Transformation: Coal Drops Yard



Sustainability: École La Référence



Small Projects – Millet Vinegar Museum



Construction Innovation Morpheus Hotel



Structural Heritage: Newquay Harper Footbridge

Committee Reports

Young Members Group



Amr Farag, E.I.T. M.Eng

Recent events put on by the SEABC YMG include a Structural Engineers Ask/Answer Questions event (SEAQ) as well as the first Struct.Eng. Registration Seminar. The YMG has also been working hard to plan future events and initiatives including the 9th Annual Presentation Competition.

The “SEAQ”uel

Continuing the exciting theme from last session, another evening of great discussion regarding software, automation, and computational design was shared among the bridge side of structural engineering. Many issues such as the lack of a bridge-centric VDC process, tools used to compensate for that void, and new technologies on the horizon were touched on and discussed. The discussion was expertly led by Jamie McIntyre and Manmeet Parmar from Mott MacDonald. A good blend of high-level considerations and specific project applications of computational design was achieved by the pair, leading to lots of great take-aways for the participants of the session.

Struct.Eng. Registration with EGBC Seminar

The first Designated Structural Engineer registration seminar was carried out without a hitch thanks to the breadth and depth of experience of our guest speakers. SEABC director Adrian Gygax, founder of GEA, was one of our speakers. His knowledge was only rivalled by his ability to deliver this pertinent information in a witty and engaging manner, conveying the process of registration with the IStructE route as well as his own thoughts on the traits of being the good structural engineer as required by the designation. Adam Williams was our other speaker, going over the SE route of the requirements and neatly wrapping up the evening with his own thoughts and advice for younger engineers. Lots of good questions were raised by the

audience throughout the seminar and the evening was concluded with a social at a nearby pub for casual conversations between the participants and the speakers.

For those preparing for the IStructE exam, here are some excellent resources:

- Past exams and examiner reports: seabc.ca/struct-eng.
- Page 12 of Aug 2018 Newsletter: seabc.ca/newsletters
- Page 6 of Aug 2019 Newsletter: seabc.ca/newsletters
- On-line exam preparation course is at: www.istructe.org/resources



Adrian Gygax presenting at the Struct.Eng. Seminar



Attendees at the Struct.Eng. Seminar with speaker Adam Williams

So You Think You Can Give a Seminar? CALL FOR CONTESTANTS!

Worked on an interesting dream project? Got a chance to visit an amazing job site? Learned something extra-ordinary? Here's a chance to share your experiences and enter a chance of winning \$1000 and bragging rights among your fellow young engineers. To enter, please email application to [yng@seabc.ca](mailto:ymg@seabc.ca). Abstract submission deadline is December 6th. Chosen candidates will give a 10-15 minute presentation to a panel of judges during the competition which is taking place on February 19th, 2020 at UBC Robson Square. For more information, please refer to the competition flyer.

seabc.ca/events

On the Web



Stephen Pienaar, P.Eng.
Webmaster

Current activities on the website

Happening right now:

- **Membership renewal:**
Log in by December 31 to renew your membership for 2020. A group renewal option is available for firms that want to renew for their staff.
seabc.ca/membership
- **January 2020 Term of the Certificate in Structural Engineering Program:**
The upcoming term offers four courses, all available in classroom and live interactive webcast formats:
 - C5 Topics in Practical Structural Design
 - C11 Light Timber Design for Residential/Commercial Buildings
 - C50 Highway Bridge Design Loadings & Load Rating

- E22 Introduction to Heavy Timber

Early-bird discount is available until December 13.

seabc.ca/cse-current

- **So You Think You Can Give a Seminar?**

The hugely popular SEABC Young Members Presentation Competition is back for its ninth installment. The abstract submission deadline is December 6. See flyer at end of newsletter.

seabc.ca/events

- **SEABC Photo Competition**

Submit those beautiful structural engineering photos you took in summer and win a nice cash prize.

seabc.ca/photo-competition

Video recordings of recent seminars

- **Shotcrete: Not your Father's Gunite** (April 2019 evening seminar)
Charles Hanskat, P.E. (American Shotcrete Association) provided an overview of the capabilities and benefits of the shotcrete process in both new and repair applications, including a preview of the provisions in ACI 318-19, BCBC 2018 Part 4 and Material Standards Updates
- **Performance-Based Wind and Earthquake Design Frameworks for Tall Wood-Concrete Hybrid Buildings** (May 2018 evening seminar)
Dr. Solomon Tesfamariam (UBC School of Engineering) presented the state-of-the-art in timber-based hybrid systems, recent research at UBC (including new force modification factors to supplement the NBCC 2015), and results of aerodynamic and aeroelastic wind tunnel tests of hybrid tall wood building models.
- View these and other recordings:
seabc.ca/events-archive

Showcase your firm

Let the SEABC website work for your firm:

- 1) **Directory of Structural Firms:** The Directory currently lists no fewer than 79 firms across the province. We have received positive

feedback from many that their listings are generating valuable leads. Listing in the Directory is free and available for firms that employ one or more SEABC members.
seabc.ca/directory

- 2) **Photo of the Month:** The SEABC website consistently receives more than 3,000 unique visitors every month. Your firm can get free exposure by featuring projects as the website's photo of the month.
seabc.ca/photo-of-the-month
- 3) **Newsletter:** Take out a paid advert in the quarterly SEABC Newsletter. With a circulation of over 1,000 (as of August 2019), the Newsletter is a great vehicle to get your message across to the B.C. structural engineering community.
seabc.ca/newsletter

We want to hear from you

We welcome your comments for improving the SEABC's website and other online services. Please send your suggestions to webmaster@seabc.ca

Technical Committee



Kevin Riederer, M.A.Sc.
P.Eng.,
Director SEABC

The task group developing a practice guideline for the "Structural Condition Assessments of Existing Buildings," has received the first round of review comments from EGBC. The next step will be to incorporate those review comments into the document and produce the next draft which will be peer reviewed by volunteers of SEABC. Members can look for the guideline to be published in 2020.

Anyone with interest in participating on a Technical Subcommittee or task group is encouraged to contact SEABC. Any member with an issue or concern that they would like to have the Technical Committee consider is also encouraged to reach out to the committee.

Communications Committee



David Harvey, P.Eng.,
Struct.Eng.
Director SEABC

At the Communications Committee we are passionate about communicating with our members in the best way we can. We rely on contributions from our members as well as regular reports from our committees. Our readers are important to us and we need to keep you well informed. After all, SEABC was established to sponsor educational events and provide member services.

To help with the timeliness, completeness and accuracy of our newsletter we have been seeking help with newsletter editing. We are pleased to report that Mark Budd has offered to join our editorial team.

Mark is a structural engineer who holds a B.Sc. in Civil Engineering from the University of Alberta and a Certificate in Technical Communications from Simon Fraser University. Mark's background is in steelwork detailing, erection engineering, antenna tower design and structural assessments. Mark also freelances in technical writing through his company, DB Writing Ltd. of Vancouver. We look forward to providing even better communications service with Mark on board.

We really appreciate those of you that submit interesting articles – we need plenty! And thank you to all of you for reading them. So please keep sending us your reports. Kindly send information for publication to: newsletter@seabc.ca



Mark Budd

A Plan for Inspections



Mark Budd P.Eng.

Engineers are reminded of their responsibility to inspect during construction. For better or worse, the lessons learned by an inspection can help improve future design work and help keep current projects paced along. Whether it's at the top of the skyline, or alongside a highway turnoff, an inspection will help build relationships with the teams that turn drawings into structures.

Everything starts at being prepared and an inspection is no exception. So here is a plan that may help you get ready for your next inspection:

1. Talk to the contractor on the phone when the inspection request is made. This will help identify the necessary inspection items, construction areas, and site contact. Also inquire about who is responsible for site safety. That organization should have a site safety orientation in place for all working on or visiting the site. In some cases, this will require training and certification. You will need to verify that you have your current certification handy for your site visit.
2. Review the drawings and relevant design work. It's always a good idea to understand the details, why they are used, and where you can expect to see them.
3. Plan your route to site. Be aware of traffic conditions and the time of travel.
4. When you are ready, gather your PPE and tools. Steel-toed boots, a high visibility vest, and a hardhat is nearly always required; other specialty PPE (mask, gloves, eye protection, respirator, RF meter) is site dependent. Tools such as a camera,

measuring tape, and notebook are also valuable to carry.

5. Arrive on site and check-in with the site contact.
6. Follow your site contact through the construction zone to the inspection area. This is a good opportunity to talk with them and get feedback on the construction process.
7. Start taking representative photos of the inspection area. This will help create a suitable record for the work in addition to the inspection report.
8. Once the inspection of the work is complete, discuss the general conclusions with the contractor. Identify any deficiencies that need to be addressed prior to continuing to the next step. It is important to give the contractor a clear and honest evaluation of the work.

Before leaving the site, inquire when further inspections will be required. That way, you'll be ready for your next visit to site.



IStructE Exam Training Resources

Examination Training

The Institution's Chartered Membership Examination is still as popular as ever – candidates sitting the exam are growing in number. The examination has been held for most of the Institution's existence and remains a well-respected test of structural engineering competence.

Known for challenging candidates to solve and complete the design of a complex building problem in only seven hours, the CM Exam is tricky to pass, and candidates can benefit from knowing what is required of them and practicing solution development using past exam questions.

Well for prospective candidates, life just got better! You will have to work hard preparing for the exam, but SEABC has uploaded valuable additional resources for you. If you check out this weblink:

www.seabc.ca/resources/struct-eng/

you will see examinations and examiners' reports going back to 1990 and up to July 2019, as well as Examiners Reports up to January 2019.

A great new section Archived Possible Solutions has been added. The past examinations provide plenty of practice material and give you great insight into the style of questions you may be asked to solve. The examiners' reports include commentary on how the questions were tackled, and on the successful and unsuccessful solutions offered. Great tips on what to avoid can also be found.

The archived solutions are not definitive but provide clues of what the question writers are anticipating, and how your thought process can be presented. As in 'real life', there is never just one solution, and you can certainly think of other designs and better ways of answering the questions. However, for candidates gaining familiarity with the CM Exam, the archived solutions are a big help.

The Institution is increasingly developing E-learning opportunities. The E-library, webinars and recorded lectures have been available for some time and have now been joined by the first on-line examination 'Understanding Structural Behaviour.' This strong E-learning trend will continue, fueled by the international membership base, and the convenience of accessing recorded material.

You may also be interested that the Institution has now launched an On-Line Exam Preparation Course with access available to study material for up to 12 months. The cost is about \$550 which is similar to the cost of the one-day course SEABC has run in past years. The on-line course cost is considerably less than the in-classroom courses run in London.



SEABC Library



Connor Ferster,
Read Jones Christoffersen Ltd.

The SEABC Young Member's Group ("YMG") is excited to present the upcoming launch of the new Vancouver SEABC Member's library.

In 2018, Paul Fast posted a "Notable Book List for Structural Engineers", a collection of pleasurable reads and inspirational books geared toward the structural engineer. In 2019, SEABC decided to invest in a collection of these and other similar books for its members. The library is for SEABC members and does not cost anything to use.

The books are all physical books and will be available through an online card catalogue. Since SEABC has no permanent office location, the library will operate as a decentralized library with books being distributed between three structural engineering offices in Vancouver, operating as library branches: the Ausenco Branch, the Fast and Epp Branch, and the Glotman Simpson Branch. Members who wish to withdraw a book can check it out online and arrange a time to pick-up the book with the branch librarian, whose contact information will be listed beside the check-out button. Like many libraries, books are simply picked up and returned to the branch where you got them.

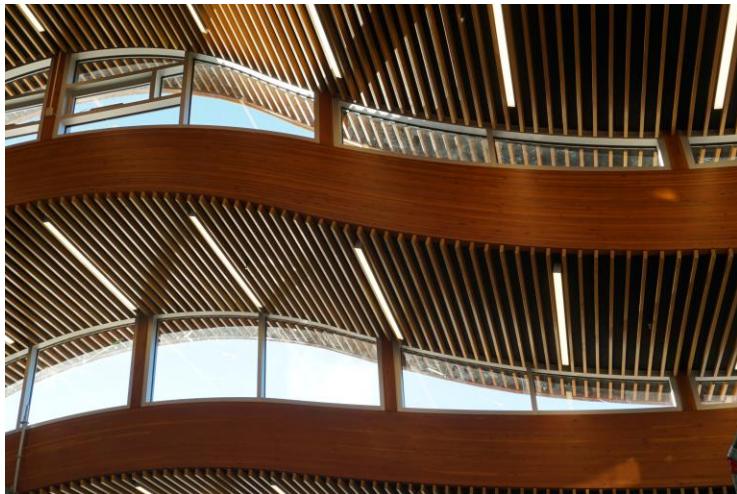
The library currently has 42 books, many of which are not available at local libraries! We expect the collection to grow over the years and we are eager for requests from members.

As the SEABC is a professional organization, we rely on the professionalism of our members to take care of books and return them after they are finished with them: we do not expect to have a “fines” system.

We are expecting to launch the library in January 2020: a perfect time to settle in with a book that just might expand your practice!



Photos of the Month



October: TWN Administration & Health Centre, North Vancouver, BC
Fast + Epp



November: National Arts Centre, Ottawa, ON
Fast + Epp

Opinion



Ralph Watts, P.Eng; P.E.

In regards to the “Message from the President” article in the August 2019 newsletter

As embodied carbon only generates about 10 to 15% of the total greenhouse gas (GHG) emissions over a building’s lifetime (most result from heating and cooling), such a focus may be premature. As noted in the article, all materials have an environmental footprint, both GHG and other, so these effects will not be zero no matter what we do. Couple this with the already large and rapidly rising internet GHG emissions¹ and any savings on embodied carbon emissions could go unnoticed.

So how can we, as professionals, help with environmental issues? A few suggestions are:

- Nudge designers and others to think twice before installing smart everything. While some of these technologies may be beneficial, many will be energy wasters; any energy savings in the building will be more than offset by internet energy use. Do we really need smart refrigerators, lights, etc.?
- Design and inspect to get durable structures. For example, a common failing is inadequately cured concrete. If pozzolans have been added to the mix, whether specified or not, then a full 7-day wet-cure is needed.
- Work with architects to design good thermal breaks and control condensation while maintaining structural integrity. One area that may have been overlooked is the need to keep subterranean termites and carpenter ants out of buildings. The new

energy code requires a thermal break (foam) between a slab-on-grade and the foundation wall. This provides a hidden access point as termites can eat foam or squeeze through a millimeter gap. Currently the southern areas of the province are the northern limit of their range, so it is not a major issue yet, but could become significant as temperatures rise.

- Architects are the ones weighing the trade-offs. Our publications should focus more on performance and less on aesthetics.

As an organization:

- Let members download seminars to a computer to minimize streaming. Most of the energy in streaming is in all the servers a video clip goes through on the way from the source to your device. Download it once, not multiple times, and then share it with colleagues.
- Advocate for changes to the Codes (and Standards) processes. These documents have exploded in size and contain numerous errors, inconsistencies and ambiguities. It is very hard to write clear, unambiguous standards. These standards need to be tested before they are adopted. How will engineers interpret the provisions? Do we have adjacent Part 4 and 9 buildings that look like night and day? Are the trade-offs reasonable? What may be best for seismic or GHG emissions may increase the fire risk.

While the code writers are often bright, they write the codes for the large, complex structures and do not fully account for the various skill sets that engineers have or the implications of the code on the more numerous smaller structures with their limited time and budget constraints.

1. Tom Bawden “Global warming: Data centres to consume three times as much energy in the next decade, experts warn” *The Independent*, 23 January 2016.

Claims



Rob McLeod, CIP CAIB
Professional Liability Insurance
Broker
Metrix

7 Claim Trends to Watch out For!

As unpredictable as accidents may seem for the most part, certain areas have been trending in the past year for higher risk in professional liability claims. To help architects, engineers and other design firms minimize their risk on projects, insurance specialists have identified seven types of claims to be wary of. While these claim trends may vary depending on individual discipline and territories, claims that have seen the largest representation overall include:

- **Residential claims**

A healthy economy is fueling construction of apartments, condos and townhomes which has spurred a rise in claims for alleged defects in design and construction. Designers with less history in the residential market are more at risk. Clear, well-written documentation is key to avoid and mitigate claims. A realistic understanding of costs and the impact of changes made are necessary. Design professionals therefore need to carefully manage owner expectations. Design firms are particularly prone to experiencing a lack of timely payments and consequentially seeking to terminate their roles on residential projects. Early intervention can help to resolve issues and ward off claims.

- **HVAC claims**

An increase in HVAC claims is primarily related to excessive moisture, thermal comfort and humidity control. Insufficient cooling in muggy areas and inadequate heating in northern projects often stem from insufficiently sized equipment. However, improper maintenance can be a factor and therefore it is important to document the owner's responsibility to adequately maintain their

equipment. Systems need to be fully tested before a building is occupied.

- **Technical issues**

Claims for various technical deficiencies, including insufficient engineering calculations, failure to meet current codes, failure to disclose subsurface test results to bidders, and specifying non-accessibility compliant doors are rising. Quality management of designs is vital to minimize errors and omissions.

- **School claims**

Educational projects, especially in the United States, have experienced a rise in claims resulting from litigation by aggressive law firms targeting the sector. The best defense requires a clear scope of work, documented client approval of changes, and a well-written contract with balanced risk allocation.

- **Soil/storm water issues**

The uptake in construction work combined with increased precipitation in arid regions has resulted in a rise in claims. Soil settlement or expansion issues have also been factors, especially in mountainous regions. These claims are difficult to mitigate. Insurers recommend commissioning adequate soils reports from the actual project site and communicating and documenting the risk of a limited subsurface investigation. Also, that designers insist on being granted a comprehensive scope of services, and that climate change factors which may affect the design be considered.

- **New project delivery methods**

With design professionals increasingly being involved in alternative methods of delivering projects, familiarization with different expectations and responsibilities of design firms is strongly recommended. Adequate staff training and retaining external expertise is important before accepting new project-delivery work.

- **Bad contracts**

Design firms accepting bad contracts are increasingly targeted with claims from owners. To achieve fair and clearly written contracts, begin with the standard language provided by industry associations and your insurance carrier, customized to the particulars of your project.

Mark Your Calendar

Upcoming Seminars/Webinars and Events

Value Analysis in Action

Date: Monday, December 2, 2019

Time: 8:30 AM–9:00 AM: Registration and Continental Breakfast

9:00 AM–4:30 PM: Value Analysis in Action

Location: Vancouver, BC.

For more info: www.egbc.ca/Events

Lunch and Learn and Tour of Zaber Technologies

Date: Thursday, December 5, 2019

Time: 11:00 AM–1:00 PM

Location: Zaber Technologies Inc., #2- 605 West Kent Avenue N., Vancouver, BC

For more info: www.egbc.ca/Events

Free Webinar on Earthquakes and FEMAR P-1000

Date: Thursday, September 12, 2019

Time: 12:00 PM–1:15 PM: Pacific

Registration Fee: Free

To Register: www.register.gotowebinar.com

MIDAS Fab Lab Tour: 3D Fabrication/Printing and More Check out the new Maker Space in Trail, BC

Date: Thursday, December 05, 2019

Time: 6:00 PM–8:00 PM

There will be tours of the design space and fabrication space in two groups.

Location: 2950 Highway Drive, Trail, BC

For more info: www.egbc.ca/Events

Tour of Mossom Creek Hatchery Building

Date: Friday, December 6, 2019

Time: 12:30 PM–1:00 PM: Registration and Networking

1:00 PM–3:30 PM: Presentation

3:00 PM–4:00 PM: Site Tour, Q&A, and Closing

Location: Mossom Creek Drive, (gravel Road Access) Port Moody, BC

For more info: www.egbc.ca/Events

OQM Certification Training Session

Date: Wednesday, January 8, 2020

Time: 8:00 AM–8:30 AM: Registration and Continental Breakfast

8:30 AM–4:30 PM: Organizational Quality Management Training Course

Location: Engineers and Geoscientists BC 4010 Regent St Burnaby, BC V5C 6N2

For more info: www.egbc.ca/Events

EIT/GIT Bowling Night

Date: Saturday, January 25, 2020

Time: 3:00 PM–4:30 PM

Location: Fort Bowling Lanes- 10116-104 Street, Fort St. John, BC

For more info: www.egbc.ca/Events

Final Words

Editorial Information

The SEABC Newsletter is published by the Structural Engineers Association of British Columbia. The current and past issues are available on the SEABC website at www.seabc.ca.

The Newsletter is edited and managed by the SEABC Communications Committee.

- Committee Chair: David Harvey
- Newsletter Editor: Catherine Porter
- Editorial Assistant: Mark Budd
- Webmaster: Stephen Pienaar

Submissions are welcomed and all SEABC members are encouraged to actively contribute to the Newsletter. Submissions, letters to the Editor, questions and comments can be sent to:
newsletter@seabc.ca.

The Committee reserves the right to include or exclude submitted material and in some cases, edit submitted material to suit overall space requirements. If content is not to be edited, please advise so at submission time.

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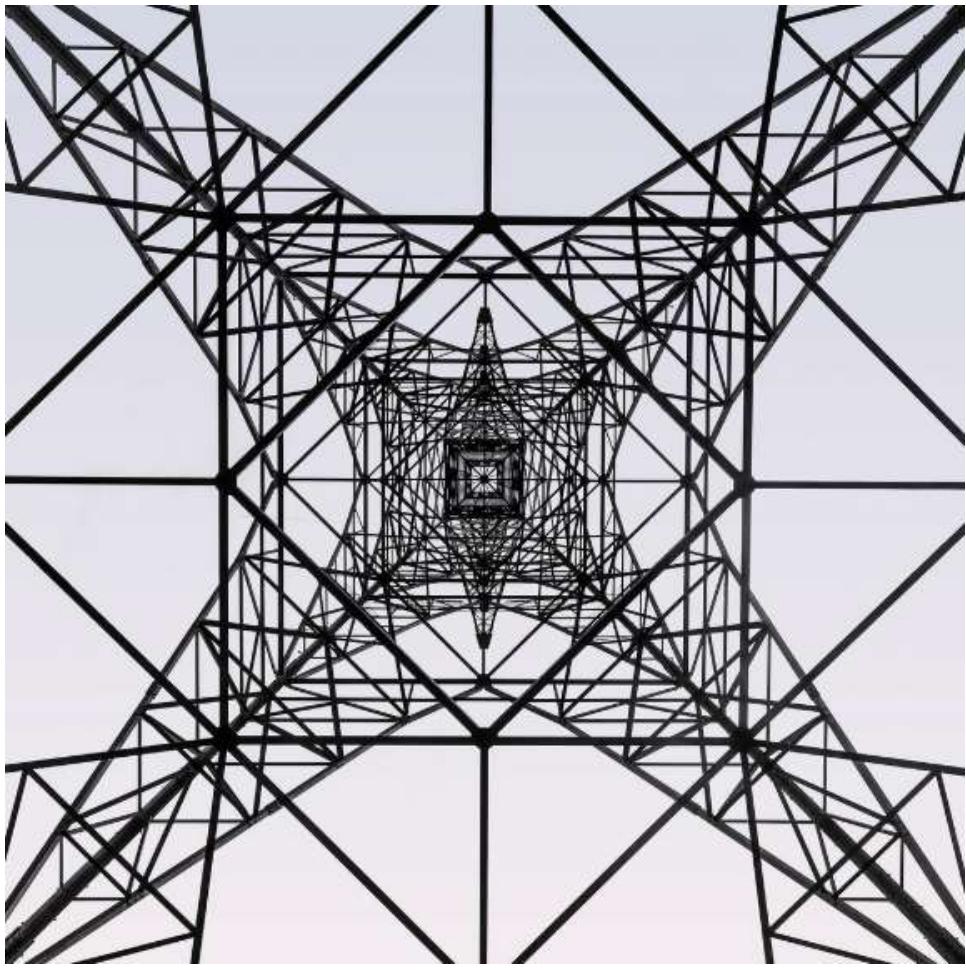
Advertising

Pre-paid rates per edition:

- \$270 (quarter page), \$360 (half page) or \$450 (full page) plus GST. Rates include a banner advert on the Events page of the SEABC website.
- 50-word "Available for Employment" ads are free.

Please address advertising enquiries to:
newsletter@seabc.ca.

Please support our advertisers!



APPLICATION DEADLINE
DECEMBER 6th, 2019

REQUIREMENTS:

SEABC members with less than 10 years' experience. participation in previous years' event does not disqualify you from participating again!

PRIZE:

Up to \$1,000! invitation to present at the SEABC AGM! SEABC trophy!

SEABC YMG

[yng@seabc.ca](mailto:ymg@seabc.ca)

ORGANIZING COMMITTEE

Navpreet Bharaj

Hossein Bajehkian

Tyler Best (Vancouver Island)

Tanya Fraser (Okanagan Valley)

9TH ANNUAL SEABC PRESENTATION COMPETITION

DATE: FEB 19TH, 2020

VENUE: UBC Robson Sq., Vancouver

SO, YOU THINK YOU CAN GIVE A SEMINAR!

Worked on an interesting dream project? Got a chance to visit an amazing job site? Learned something extra-ordinary? Here's a chance to share your experiences and enter a chance of winning \$1000 and bragging rights among your fellow young engineers.



Who?

- Students, EITs, Engineers with less than 10 years' experience.
- SEABC members (annual membership for \$75, free for students).
- Contestants outside of lower mainland highly welcomed! Travel costs may be subsidized (contact YMG for more info). Participation in previous years' event does not disqualify from participating again!

Topics

- Must pertain in some way to structural engineering and can include:
- A project you have been involved in;
 - Post-disaster reconnaissance work;
 - A project completed at school;
 - An international experience you would like to share;
 - Your research work;
 - A personal reflection about industry practice;

What to expect?

Give a 10-15 minutes presentation followed by up to 5 minutes Q&A.

Rating is based on:

- Presentation skills
- Ability to answer questions
- Topics and content

Be advised that the presentations may be filmed.

Application:

Please provide:

- Presentation title
- Your title and affiliation

First round of presentations will be held in the following cities by January 22nd, 2020 (as required)

- Vancouver
- Kelowna
- Victoria

For more information or to submit your application, please contact YMG at
ymg@seabc.ca

