



The Canadian Society for Civil Engineering
The Canadian Geotechnical Society



London & District Section

2014/2015 Program

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Pricing to attend an individual meeting:

- *CSCE/CGS Member and Non-member* **\$25**
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Contact Trisha Wilbur @ (226) 268-7778, (Email: trisha.wilbur@csce-cgs-london.org) for more details.

Notes about Meetings

- *Events are held at Fox and Fiddle, located at King St. and Wellington St. (Citi Plaza).*
- *Parking validated for Citi Plaza lot.*
- *Cash bar is available.*
- *Networking opportunity starts at 5:45 pm.*
- *Dining at 6:30 pm*
- *Presentation at 7:15 pm, followed by Q & A.*

2015/2016 PROGRAM

Wednesday September 23rd, 2015

Nature and Potential of Building Information Modeling (BIM)

Presenter: John Dickinson, Ph.D., P.Eng.; Advanced BIM Solutions Inc.

Wednesday October 21st, 2015

Design-Build of Deep Foundation Services (Helical Piles and Micropiles)

Presenters: Dino Vito, M.A.Sc., P.Eng.; EBS Geostructural

Wednesday November 25th, 2015

Modern Tools for Health Monitoring of Structures

Presenter: Faouzi Ghrib, Ph.D., P.Eng.; University of Windsor

Wednesday January 20th, 2016

Mircotunnelling Establishes itself in Ontario

Presenter: Marc Gelinas, P.Eng.; Hatch Mott MacDonald

Wednesday February 24th, 2016

Failure of a Bridge Cofferdam

Presenter: Storer Boone, P. Eng.; Golder Associates Ltd.

Wednesday March 23rd, 2016

Western University Civil and Environmental Engineering Design Project Winners

Presenters: TBA; Western University Canada

Wednesday April 20th, 2016

Top Down Construction of the LRT Overhead Bridge

Presenters: Brad Craig, P.Eng., Dillon Consulting Ltd.; Jeff Giroux, P.Eng., MTO

Wednesday September 23rd, 2015 Presenter: John Dickinson, Ph.D., P.Eng. – Advanced BIM Solutions Inc.

Nature and Potential of Building Information Modeling (BIM)

What is it about BIM that is attracting the attention of Civil Engineers of all types? Not only is BIM frequently used in both small and large residential, commercial and industrial construction projects, it is becoming an increasingly common feature of infrastructure projects. Although BIM is simple in concept its implications can be significant. For this reason its application is becoming mandatory for public projects in many countries all around the world. This presentation will review the core nature of BIM, why it can have such a dramatic impact on construction project results and what it means for your jobs and projects in the future.

Wednesday October 21st, 2015 Presenters: Dino Vito, M.A.Sc., P.Eng. – EBS Geosteel

Design-Build of Deep Foundation Services (Helical Piles and Micropiles)

Helical Piles and micropiles are deep foundations that can be used in compression, tension and lateral applications. Helical Piles and micropiles are used anywhere traditional deep foundation technologies are used, and in places they are not, including areas with low headroom, limited access work sites and high water table applications. This presentation includes an introduction to EBS Geosteel Inc., theory on helical piles and micropiles, short videos on the installation of both systems, and a review of case histories on industrial, commercial and institutional projects.

Wednesday November 25th, 2015 Presenter: Faouzi Ghrib, Ph.D., P.Eng. – University of Windsor

Modern Tools for Health Monitoring of Structures

The 2013 ASCE Infrastructure Report Card has indicated that a \$3.6 trillion investment is needed over the next 5 years to maintain and improve existing infrastructure in the USA. Infrastructure in Canada is in a similar state, and as the September 2006 collapse of the de la Concorde overpass in Quebec illustrates, Structural Health Monitoring (SHM) is not just an academic curiosity problem. This presentation focuses on the major technologies used in SHM, with an emphasis on non-destructive testing (NDT) methods. Particular attention will be paid to close-range photogrammetry (CRP) and Digital Image Correlation (DIC) for the identification of damage in reinforced-concrete beams.

Wednesday January 20th, 2016 Presenter: Marc Gelinas, P.Eng. – Hatch Mott MacDonald

Microtunnelling Establishes itself in Ontario

In just three short years, microtunnelling has come from a construction technology which had not been attempted in Ontario for over 10 years, to one of the most rapidly growing methods for water and sewer installation, with three Ontario-based contractors and several equipment spreads operating across the Province.

This presentation will provide a brief overview of microtunnelling technology, starting from its roots in Europe and Asia, to its arrival in Ontario. Key indicators and counter-indicators for the use of this technology will be discussed, and case studies from recent Ontario projects will be presented.

Wednesday February 24th, 2016 Presenters: Dr. Storer Boone, P.Eng. – Golder Associates Ltd.

Failure of a Bridge Cofferdam

A new bridge was recently constructed in northern Ontario and because of the waterway geometry and spans, two in-water piers were required. Soft clay soils, silt and sand deposits below the clay and high water levels complicated design and construction of the sheet pile cofferdams. One afternoon, while the cofferdam was thankfully unoccupied, the base of the cofferdam failed and heaved. While the cofferdam did not breach with respect to the river, the structural integrity of the sheet piles, wales, braces and the geotechnical integrity of the base was destroyed. Equipment, initially pinched into the destroyed cofferdam was also successfully recovered.

This failure was entirely avoidable based on information provided in the Contract. Design was completed, signed and stamped by an engineer from another province, but licensed to practice in Ontario. The shop drawings were also stamped by a checking engineer licensed to practice in Ontario. This presentation will summarize the underlying technical causes of the failure and some of the professional practice issues that should concern us all.

Because of the sensitivity of this project and the resulting conditions, the project, location and all parties will remain anonymous. A copy of the presentation will not be provided.

Wednesday March 23rd, 2016 Presenters: TBA

Western University Civil and Environmental Engineering Design Project Winners

2015-2016 marks the 20th year in which the City of London and Western Engineering have partnered to engage 4th year students in a capstone design competition. Student teams work on real-world projects proposed by the City with the support of Faculty and external advisors. The final designs highlight innovative materials and construction techniques while providing value and aesthetic benefit to the City. In this presentation, winning teams from this year's City of London Competition will present their designs for a CNR crossing over Wonderland Rd. N., a Multi-Use Pathway Bridge over the North Branch of the Thames River, the London Southwest Recreation Centre and the expansion of the Elgin Water Treatment Plant.

Wednesday April 20th, 2016 Presenters: Brad Craig, P.Eng. – Dillon Consulting Ltd.; Jeff Giroux, P.Eng. - MTO

Top Down Construction of the LRT Overhead Bridge

A new Light Rail Transit system is being constructed in the Waterloo Region. The first phase of construction is scheduled for completion in 2017 and will connect Conestoga Mall in the City of Waterloo and Fairview Park Mall in the City of Kitchener – a distance of 19 km. The LRT route crosses the existing Kitchener-Waterloo Expressway (Highway 7&8), requiring the construction of a new structure under the busy freeway. In 2014, the new single span bridge was completed using a unique top down construction technique. This presentation will focus on the benefits of the top down construction approach for the LRT bridge and discuss the design challenges and construction aspects of the project.