



**2017/2018 Executive Committee**

Masoud Manzari – Chair  
Lucie Clatworthy – Special Event and Secretary  
Andrew Drevininkas – Regional Director  
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Al Varshoi – Communication

2017 CGS-SOS Cross Canada Lecture

**Advances in Dam Design**

Wednesday, October 18, 2017

St. Bernard Church, 1789 Lawrence Ave W, Toronto, ON, M6L 1E3 (<https://goo.gl/maps/66Eah9RwiFv>)

**Evening Program:**

**5:30 PM**

**Cocktails and Socializing**

**6:30 PM**

**Dinner**

**7:30 PM**

**Lecture**

**Abstract:** Embankment dam performance and life span are closely related to the hydric, thermal and mechanical behaviour of materials used during its construction. The apparent simplicity of embankment dams hides complex and often poorly known behaviours resulting from thermo-hydro-mechanical coupling phenomena. Understanding the different behaviours as well as their interrelationships is of paramount importance to optimize the life cycle of these structures.

Hydro-Québec Production obtained the necessary approvals to build a 1,550-MW hydroelectric complex on the Rivière Romaine, north of the municipality of Havre-Saint-Pierre on the north shore of the St. Lawrence. The complex will consist of four hydropower generating stations with an average annual output of 8.0 TWh.

Construction of the Romaine-2 development began in 2009. Romaine-2 was commissioned in 2014 and the Romaine-1 development was commissioned in 2015. Work on the Romaine-3 and Romaine-4 developments, which will be operational in 2017 and 2020, respectively is underway.

Since 2009, the NSERC/HQ industrial research chair in Life Cycle Optimization for Embankment Dams contributed to the advancement of various aspects in dam design. Major developments for seepage induced erosion are presented. The use of centrifuge testing for predicting deformation of Romaine 2 are discussed. Rock fill properties are viewed from a fractal perspective.

**Speaker: Dr. Jean-Marie Konrad, ing, Ph.D.,** is a registered civil engineer with a Doctorate degree from the University of Alberta where he contributed to the development of frost heave mechanics. He worked in the private sector as a geotechnical engineer for SNC-Lavalin and James-Bay hydro electric Corporation, at the National Research Council with respect to the geotechnical aspects of the artificial drilling islands in the Beaufort Sea, development of interpretation techniques of in situ testing data in weak soils and academia at the University of Waterloo (Ontario) and Université Laval (Québec). From 1998 to 2008, he was the holder of an NSERC industrial research chair on frost action in Civil Engineering structures. Presently, he is professor of civil engineering at Université Laval, Quebec and also the holder of an NSERC industrial research chair on the optimisation of the life-cycle of earth-dams. Dr Konrad is the author or co-author of over 150 technical papers. For the last twenty-five years, he was also a consultant for various projects related to artificial freezing, permafrost engineering, dam construction and safety assessment.

**The Canadian Geotechnical Society  
Southern Ontario Section**



**La Société Canadienne de Géotechnique  
Section Sud de l'Ontario**

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The location of the venue and available parking lots is presented below.



CGS Members/Government Employees – Early Bird:	\$30.00	<p><b>*Students:</b> Please note that a limited number of tickets are available.</p> <p>Student Sponsors, who subsidize CGS-SOS events, will be recognized at the Dinner Lecture. Please purchase student sponsorships on Eventbrite to contribute to this worthwhile initiative and your company will be recognized at the event. We thank you for your support!</p>
CGS Members/Government Employees:	\$40.00	
Non-Members – Early Bird:	\$35.00	
Non-Members:	\$45.00	
Student:	\$15.00	

**Please confirm your attendance by October 6, 2017, 11:30 PM to qualify for the Early Bid price or by October 16, 11:30 PM, using Eventbrite:** <https://www.eventbrite.ca/e/october-18-2017-cgs-sos-cross-canada-lecture-tour-advances-in-dam-design-15-hours-peak-tickets-38039748913>

This event will be booked solely through Eventbrite.

**If you have difficulties using Eventbrite, please contact Veronica Ayetan (Veronica.Ayetan@ontario.ca) for assistance.**

Visit the CGS-SOS website at: [www.cgs-sos-toronto.com](http://www.cgs-sos-toronto.com)