The Canadian Geotechnical Society
Southern Ontario Section

La Société Canadienne de Géotechnique
Section Sud de l'Ontario

November 2020 CGS-SOS Webinar

Groundwater control for deep shafts and connection tunnels in London

By: Dr. Toby Roberts FREng CEng CGeol FICE FGS

Date: **Thursday November 19, 2020**
Time: **12:00 – 1:30 PM**
Registration Link: Eventbrite
The link to access the webinar will be provided to the registrants in advance of the event.
Registration will end on Tuesday November 17.

Abstract:
Much of London's deep Victorian infrastructure was constructed in London Clay, a dense, relatively stable material that is ideal for shaft sinking and tunnelling. Successive infrastructure phases have been constructed deeper and over the last 30 years, have frequently reached below 40 m and up to 90 m depth extending below the London Clay into the Lower Aquifer. The Lower Aquifer comprises channel sands and fine marine sands, with similar characteristics to the glacial sands found in Toronto, underlain by porous chalk rock. The Lower Aquifer has been exploited for water supply over the last 150 years resulting in a partially under-drained pore pressure profile. Modern TBMs are capable of driving tunnels through the water-bearing ground, but control of groundwater for the deep shafts required to launch and receive the TBMs and short connection tunnels remains challenging. This is particularly the case for urban construction sites with limited space and access. These constraints have spawned a range of strategies for investigating and controlling groundwater during construction, which exploit the differing hydro-geological characteristics of the Lower Aquifer strata and often involve a combination of partial cut-offs and pumping using both surface systems and in shaft/tunnel techniques.

Distinguished Speaker:
Dr. Toby Roberts FREng CEng CGeol FICE FGS
Chairman WJ Group

Dr. Toby Roberts is an expert in designing and implementing groundwater control systems for large excavations, foundations, shafts and tunnels with extensive contract experience in Europe, the Middle East and Toronto, Canada. Toby is a founder member and current Chairman of the international dewatering contractor WJ Groundwater. He has authored/co-authored more than 40 publications on construction dewatering, including CIRIA report C750 (2016), the recently updated UK design guide for construction dewatering systems. Dr. Toby Roberts is a Fellow of the Royal Academy of Engineers, a Charted Civil Engineer and Chartered Geologist.

The Canadian Geotechnical Society
Southern Ontario Section

La Société Canadienne de Géotechnique
Section Sud de l'Ontario

2020/2021 Executive Committee

Ali Nasseri Moghaddam – Chair
Hafeez Baba - Secretary
Billy Singh – Regional Director
Matt MacIntosh – Treasurer
Sebnem Boduroglu– Student Member/ Website
Aly Abdelaziz – Event Lead
Junaid Khan – Event Lead
Michael Etezad – Event Lead
Sen Hu – Event Lead
Dino Vito – Sponsorship
Amir Poshnejad - Membership and Award
Pouya Pishgah – Communication
Rashid Bashir – Student Liaison

In-shaft wellpoint system, chalk exposed

Acidisation of a chalk well with HCl

General Admission to Webinar	**Free**
Sponsorship Each Sponsor will have their logo prominently displayed on the first slide of the presentation accompanied with an acknowledgement, as well at the end during the Q & A session.	**$150**
If you have difficulties using Eventbrite, please contact Matt Macintosh (mmacintosh@recocanada.com) for assistance.	

Website: http://www.cgs-sos.ca
LinkedIn: https://www.linkedin.com/company/cgs-sos/