

## PEO-WT EVENT REPORT

The **PEO West Toronto** (PEO-WT) Chapter,  
in partnership with the  
**PEO East Toronto** (PEO-ET) Chapter,  
and the **Toronto Rehabilitation Institute** (<http://www.uhn.ca/TorontoRehab>) iDAPT Research Facility

presented:

# The Engineering Investigation into Elliot Lake's ALGO Mall Parking Deck Collapse of June 23, 2012

September 21, 2017, UHN/TRI Auditorium

We had 143 pre-registrations for this technical seminar. Among them were representations from 10 other GTA PEO Chapters, students, and the general public. We also had a number of walk-ins.

The evening was divided into three parts, and started off with a free guided tour of the TRI iDAPT Research Facility, for those who requested it at the time they pre-registered for this seminar.

For the second part of the evening, **Bernard Ennis**, PEO's PEAK Program Office, presented a short overview of the history of the PEAK program, emphasizing the period since the ALGO Mall Roof Deck collapse, **Justice Belanger's** Commission recommendations, and PEO's responses to nine points in the recommendation. His PowerPoint presentation is available [here](#).

In Recommendation 1.24, Mr. **Justice Paul R. Bélanger** commented that:

*"The Professional Engineers of Ontario (PEO) should establish a system of mandatory continuing professional education for its members as soon as possible, and in any event no later than 18 months from the release of this Report."* It further states that *"In the interest of protecting the health and safety of the public, it is, I believe, essential that professional engineers engage in continuing education."*,  
(<https://www.attorneygeneral.jus.gov.on.ca/inquiries/elliottlake/report/index.html>)

For the third part of the evening, **Hassan Saffarini**, Ph.D., P.Eng., Head of Structural Engineering at NORR Limited, provided an overview of the Ontario Provincial Police (OPP) commissioned forensic engineering investigation into the ALGO Mall parking deck collapse.

Hassan's PowerPoint presentation is available [here](#).

**Hassan Saffarini**, P.Eng., discussed the forensic investigation into the collapse of the Algo Mall and the implications for the engineering profession. Mr. Saffarini was the lead engineering investigator commissioned by the OPP after the collapse of the mall. He is the head of Structural Engineering at NORR Architects and Engineers, Toronto.

In detail, on June 23, 2012 a partial collapse of the roof of the [ALGO Center Mall](#) in Elliot Lake resulted in the death of two victims. The OPP commissioned NORR Limited, led by **Hassan Saffarini**, to carry out a forensic investigation into the cause of the collapse and the parameters that influenced it. NORR mobilised a team of professionals and augmented the team with concrete, metallurgical and corrosion specialists from [Giatec](#), BMT Fleet Technology, and the [National Research Council of Canada](#). NORR issued a report in March 2013 to the OPP which subsequently was extensively referenced by the Elliot

Lake Commission of Inquiry and per the affirmations of the judge on the criminal case associated with the collapse, the NORR report helped in forming his decision.

This presentation covers the subject from the early on-site inspection by NORR and its associates back in 2012 through the detailed analysis, lab testing, brainstorming and the formulation of the final report. Some of the findings were shared to inform of the condition of the mall and the specific mechanism of the failure. The history of the mall was also reviewed from design to construction, early and ongoing leakage problems and attempts at repair. Through the life of the building a number of engineers had the opportunity to review the structure, reflection on their perspectives informed both the understanding of the progression of deterioration that was brewing underneath, and the pitfalls of the investigations that has not succeeded in averting this tragedy.

A Commission of Inquiry was formed and took almost two years to painstakingly collect the data and interview stakeholders, witnesses, and experts before issuing a detailed report in October 2014. The NORR investigation team gave its testimony over several days. The presentation touched on that and on the Commission's findings.

The key members in the NORR team were called on as expert witness by the Crown Attorney for the Criminal Trial of the last inspector of the mall before the collapse

Final notes were given on the impact this collapse had on the engineering profession which some would characterize as a wake-up call to engineers, authorities of jurisdiction, and building operators.

Both the OPP (NORR's client) and the Crown Attorney encouraged the sharing and use of the [NORR Report](#) and what was learned during the work on site at the ALGO Mall as an educational/training tool to professional engineers, contractors, owners, building departments, and the general public.

At the conclusion of the seminar, 55 of the early-bird pre-registered attendees who requested a "Technical Seminar Attendance Certificate", received them.

Please check your PEO chapters website for other upcoming seminars and events.