

SDC 2019

4th international conference on
shaft design and construction

PRELIMINARY PROGRAM

Deeper, Faster, Safer



November 18-20, 2019 • Marriott Downtown • Toronto, ON, Canada



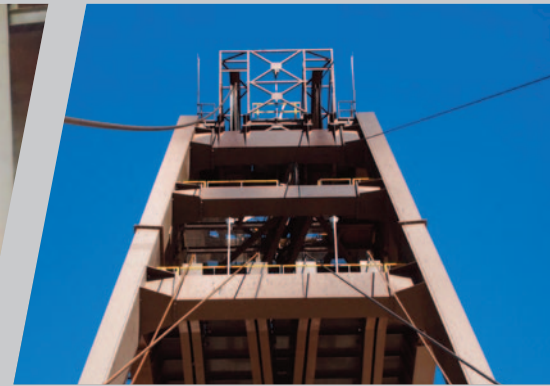
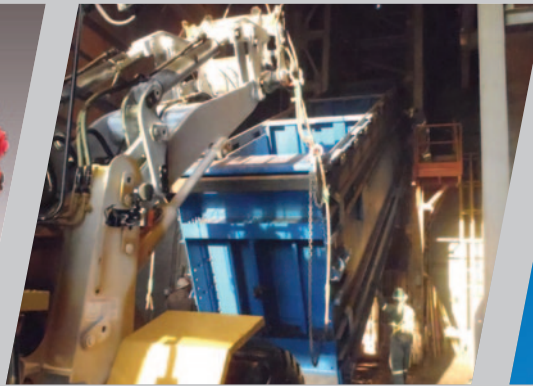
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#SDC2019

Welcome to SDC 2019

We look forward to welcoming you to Toronto for the 4th International Shaft Design and Construction Conference, SDC 2019. This unique conference is the 4th to be held since its inception in 1959. The Institute of Materials, Minerals and Mining (IOM3) selected CIM to host this conference in Canada and has provided tremendous vision and support.

We are extremely pleased with the evolution of shaft design and construction from one edition of this conference to the next. The refinement is evident in the technical papers selected and thoroughly reviewed for this edition. We are confident that you will enjoy and benefit from SDC 2019.

In addition to the 40 technical presentations, we have the privilege of presenting two highly respected keynote speakers: Bill Shaver and Dick McIvor will share their views on the future of shaft sinking and mine hoisting.

Due to the eagerness and generosity of our supporters and sponsors, we can put on the world-class event this international conference is designed to be. The authors, their employers, the organizing committee and the staff at CIM are all hard at work – investing much time and effort – to bring you an unequalled conference experience, from learning and knowledge exchange to networking. The collaboration and synergies are impressive.

Delegates registering for SDC 2019 will meet the most knowledgeable shaft design and construction experts in the world. As with any educational event, everyone will get as much as they put into it, so attend and make the most of the learning, sharing and social opportunities.

Deeper, faster, safer is the challenge. We all have a role to play in the future of mine access.

Expand your knowledge and horizons at SDC 2019.



Roy Slack
Co-Chair



Alan Auld
Co-chair

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Conference Planner

Guyline Richard

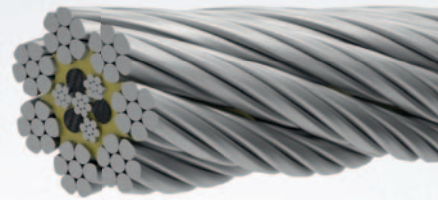
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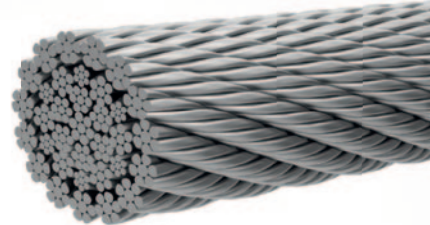
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TECHNICAL PROGRAM

KEYNOTE SPEAKERS

MONDAY, NOVEMBER 18 09:00-09:30

Shaft sinking: the next 50 years

By William (Bill) Shaver



Shaft sinking innovation and advances have been incremental over the last 50 years, but recently we have seen some significant innovation in rock cutting and other methods of sinking. This talk will focus on what the next 50 years hold for us, and how lessons learned in shaft sinking and mine and civil development will help to get us there.

Bill Shaver is a professional engineer who has worked extensively in shaft design, construction, rehabilitation, as well as operating and maintaining shafts. He has

worked on approximately 40 shaft projects, completing 30,000 metres of shaft sinking work. Many of his years of experience were in the mining contracting business, at Redpath Group, Dynatec Corporation, FNX Mining and DMC Mining Services. Bill is currently chief operating officer at Inv Metals.

TUESDAY, NOVEMBER 19 08:40-09:10

Mine hoist plant design fundamentals for permanent operation for shaft sinking

By Richard (Dick) McIvor



It is important to ensure that the basic mine hoist plant design fundamentals are incorporated into any new mine hoist plant project before detailed design engineering is commenced. Where shaft sinking is involved, the design must take into account, in addition to the permanent service of the overall plan, the temporary service to allow for safe and efficient shaft sinking.

For nearly 20 years, McIvor Engineering and Maintenance Services Inc. has been providing hoisting plant design and support services to mining clients throughout North America. Prior to starting his consulting business, Dick McIvor was specialist, mechanical engineer at Sudbury's INCO Limited, where he was responsible for the stationary plant and all of INCO's hoisting plants. He is a CIM life member and currently serves on the executive committee of the CIM Maintenance, Engineering & Reliability Society (MER). Dick is also the chair of Hoist & Haul 2020, the International Conference on Hoisting and Haulage, taking place in Montreal, Canada, in August 2020.

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DAILY SCHEDULE

Note: Presentations are 25 minutes in length, including Q&A.

MONDAY, NOVEMBER 18

- 08:45 - 09:00** Introduction & welcome
- 09:00 - 09:30** Keynote: Shaft sinking: the next 50 years
- 09:30 - 10:20** Session 1
COFFEE BREAK
- 10:40 - 11:55** Session 2
LUNCH
- 13:00 - 14:15** Session 3
COFFEE BREAK
- 14:35 - 16:15** Session 4
- 16:15 - 16:30** Closing remarks

TUESDAY, NOVEMBER 19

- 08:30 - 08:40** Welcome
- 08:40 - 09:10** Keynote: Mine hoist plant design fundamentals for permanent operation for shaft sinking
- 09:10 - 10:10** Session 5
COFFEE BREAK
- 10:20 - 11:45** Session 6
LUNCH
- 13:00 - 14:15** Session 7
COFFEE BREAK
- 14:35 - 16:15** Session 7
- 16:15 - 16:30** Closing remarks
- 18:30 - 22:30** SDC Banquet

WEDNESDAY, NOVEMBER 20

- 08:50 - 09:00** Welcome
- 09:00 - 10:15** Session 9
COFFEE BREAK
- 10:35 - 11:50** Session 10
LUNCH
- 13:00 - 14:15** Session 11
COFFEE BREAK
- 14:35 - 16:15** Session 12
- 16:15 - 16:30** Conference wrap-up and conclusion

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FIELD TRIP

TWO DAYS

Onaping Depth project at Craig mine

Tour will depart from the foyer of the Marriott Downtown hotel. The organizers reserve the right to cancel a field trip if the number of participants does not meet the minimum number required.

WEDNESDAY, NOVEMBER 20

18:00 Depart from the Marriott
22:30 Arrive at Sudbury hotel

THURSDAY, NOVEMBER 21

06:00 Breakfast
07:00 Depart Sudbury hotel
08:00 Arrive at Craig mine (tour includes orientation, UG equipment)
12:00 Lunch & presentation
14:30 Depart for Toronto
19:00 Arrive at Marriott in Toronto

Glencore INO and Cementation have graciously offered a site visit to the Onaping Depth project for a limited number of SDC 2019 delegates. Located near Sudbury, Ontario, Onaping Depth is an internal shaft project (winze) that has just commenced sinking. The shaft is accessed via the Craig mine shaft and the shaft collar is located approximately 1,230 metres below surface. It is a 7.2-metre diameter concrete-lined shaft that will provide access and ventilation

to the orebody located approximately 2,500 metres below surface. The site visit will include a safety orientation, an overview of the shaft design and sinking methodology and a trip underground to see the underground hoisting and headframe arrangement, and the shaft sinking setup and equipment.

Note: Visitors must report to security prior to entering and exiting the property. All visitors are required to wear steel-toed footwear, hard hats, reflective vests and clear safety glasses (with advanced notice, these can be issued to visitors, to be returned at the conclusion of the tour). Contact lenses are not permitted; prescription eyeglasses, if necessary, must be worn.

Cost: \$300 – includes bus transportation, hotel in Sudbury, breakfast and lunch | Minimum 10 participants | Maximum 20 participants

CORPORATE EXHIBIT

The corporate exhibit will showcase 18 shaft sector suppliers of equipment, services and technologies and will be strategically located in meeting and networking areas throughout the event.



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SDC 2019

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Monday, November 18

10:00-17:00

Tuesday, November 19

10:00-17:00

Wednesday, November 20

10:00-17:00

Are you interested in being a corporate exhibitor?
A few spaces are still available!

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CONFERENCE DETAILS

CONFERENCE VENUE

Marriott Downtown
CF Toronto Eaton Centre
525 Bay St.
Toronto, ON
M5G 2L2

ACCOMMODATION

A block of rooms is reserved for SDC 2019 participants at the Marriott Downtown hotel. Visit shaft2019.cim.org, select Reservation, followed by Hotel/Venue.

Reserve early, the number of rooms available at the conference rate is limited.

REGISTRATION

Delegate registration includes the Keynote sessions, Technical Program, access to corporate exhibit, Monday, Tuesday and Wednesday's coffee breaks and luncheons, SDC Banquet on Tuesday night and conference proceedings.

CIM or IOM3 member registration

CIM or IOM3 Member Delegate	\$895
Presenter/Chair	\$795
Committee	\$795
Graduate & Undergraduate Student	\$495

Non-member registration

Non-Member Delegate	\$995
Presenter/Chair	\$895
Committee	\$895
Graduate & Undergraduate Student	\$495

Registration prices are subject to taxes.

SOCIAL EVENT

TUESDAY, NOVEMBER 19

SDC Banquet

The SDC 2019 Reception & Banquet is a social and networking event not to be missed! Enjoy a special evening of cocktails and savour a local dinner in the much-acclaimed 1871 Berkeley Church, a unique Toronto event venue. The Shaft Bottom Boys will provide entertainment for an unforgettable soirée.

Pre-banquet reception: 18:00-19:00 | **Dinner:** 19:00-21:00 | **Location:** Berkeley Church | Included with registration | Additional tickets \$120



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HOIST & HAUL 2020

AUG. 10-13 • MONTREAL, QC

Hoist and Haul is the latest in a series of International Conferences on Mine Hoisting and is held every five years. Hoist and Haul is a peer-reviewed conference and covers systems or technology associated with the handling of ore from the point of extraction in the underground mine to the stockpiling on surface.

We invite you to submit an abstract (**maximum 300 words**) under one of the topics below. The abstract must include: title, objective of the paper, results and its contribution to the development in hoisting and haulage.

CALL FOR ABSTRACTS

THESE ARE THE TOPICS COVERED:

Mine hoist plant selection • Hoisting and shaft ropes • Hoist rope attachments • Shaft conveyances
• Mine hoist electrical – motors and drives • Head sheaves • Mine hoist braking systems •
Loading pockets and dumping systems • Mine shaft conveyance guiding •
Mine hoist mechanical – gears, auxiliary drives, couplings, foundations •
Hoist plant maintenance and inspections, NDE •
Wear materials for shaft conveyances and loading pockets • Innovative mine hoist plant design

IMPORTANT

Authors must register and pay the author/presenter registration fee before **May 31, 2020** in order to guarantee their place in the proceedings and in the program schedule.

Conferences rely on registration fees from all categories of attendees for financial sustainability. A preferential registration fee is set for presenters in recognition of their special contribution to the conference.

KEY DATES

- **January 31, 2020**
Notification to authors
- **March 20, 2020**
Full paper submission deadline
- **April 24, 2020**
Notification to authors
- **May 15, 2020**
Final revised paper submission deadline
- **May 31, 2020**
Presenters' registration deadline

Submit your abstract before **October 31, 2019** | hoistandhaul2020.cim.org