



# Engineers Yukon

## River Ice and Winter Hydrological Processes

**Note: This professional development offering will be conducted as an in-person event only, based on current Covid restrictions. Should a change in restrictions prevent an in-person event from being possible, the event will be postponed or cancelled, determined as of September 15, 2021.**

**When:** October 7, 2021 09:00-16:00

**Where:** Multi-purpose room, Kwanlin Dun Cultural Center, Whitehorse, YT.

**Cost:** \$250

**Other:** This event is limited to 12 participants. Lunch and refreshments will be provided.

### **Course description**

River ice and winter hydrological processes are fascinating, mysterious, and complex. They represent a great technical challenge for cold region engineers and geoscientists. This one-day course will explore the following topics:

- Overview of different thermal and dynamic river ice processes,
- Interaction between river ice and hydrological conditions during a Yukon winter,
- Link between ice cover types and channel morphology,
- Impact of river ice processes and aquatic habitats, the floodplain and hydraulic structures,
- Effect of climate change on river ice processes and on the design of cold region hydraulic structure,
- Monitoring streams and rivers during winter,
- Case studies and discussion

### **Presenter's Bio**

Benoit Turcotte, Ph.D., P.Eng., has been doing research on multiple aspects of rivers during the winter period, starting in 2009 in Quebec and extending his area of interest to Yukon since 2018. He is the lead or coauthor of about 30 peer-reviewed conference and scientific journal papers on many aspects of river ice and cold regions hydrological processes. He has worked on a broad range of topics, from ice jam forecasting to flood mitigation, and from discharge estimation in the presence of ice to the simulation of the impact of climate change on river ice processes. Benoit considers himself an avid learner: he has analyzed more than 150 scientific papers and technical reports about river ice and cold regions hydrology, and he has successfully monitored several small streams and rivers during the winter period. He continues to develop his knowledge about cold regions watersheds through observations, data analyses, and collaborations with stakeholders and other research teams in Canada and Europe. For Benoit, applied research also includes sharing knowledge, comparing observations and interpretations with those of others, and constantly being amazed about the interaction between cold air temperatures and flowing water. You can learn more about him on his Yukon University webpage:

<http://scholar.yukonu.ca/bturcotte/bio>