



UBC GEOLOGICAL ENGINEERING AND THE
VANCOUVER GEOTECHNICAL SOCIETY
PROUDLY PRESENT

THE 20th UBC GEOLOGICAL ENGINEERING DISTINGUISHED LECTURER

“Why Dam Failures Happen and What Can We Do About It?”

By Dr. Violeta Martin, P.Eng.



Wednesday, April 3rd, 2024 @ 7:00 pm
(refreshments and mingling from 6:00 to 7:00 pm)

ESB 1012, Earth Science Building, University of British Columbia
(2207 Main Mall, Vancouver; Parking: [West Parkade](#))

Public lecture, all are welcome!

The Talk: The safety of mining dams is being increasingly scrutinized by the public, investors, regulators, and engineering communities in the wake of recent catastrophic failures that resulted in loss of life and environmental damage. This talk will focus on dams and some of the hazards associated with dams. While it can be argued that a dam is a dam, and that every dam needs to satisfy the same safety criteria, specific considerations related to tailings dams are worthwhile discussing. Failure modes and mechanisms will be reviewed, along with recent advancements in evaluating the consequences of potential failures, which can be vastly different from failures of water dams. Understanding the consequences is critical because every life matters, the damage to the environment matters, and the loss of cultural and economic values matters. This knowledge can lead to design improvements and further advancements in risk mitigation measures, as well as the safe decommissioning of dams.

The Speaker: Dr. Martin is a Specialist Hydrotechnical Engineer and Associate at Knight Piésold’s Vancouver office with a doctorate in hydrotechnical engineering from UBC. She is a civil engineer with over 30 years of consulting and teaching experience and is an Adjunct Professor in the Department of Civil Engineering at UBC, a co-chair of the CDA’s Mining Dams Committee working group for tailings dam breach guideline development, and a member of the CDA’s Dam Safety Committee. Dr. Martin’s responsibilities include modelling and design in the fields of hydraulics, hydrology, sediment transport, wave generation and propagation, effluent mixing and diffuser design, and pipeline design for the hydroelectric and mining industries. She has extensive experience with dam breach assessments for both water retaining and tailings dams, including impact assessment and loss of life analysis. She is a member of independent technical review boards and conducts third-party reviews for mining and hydropower projects. She has worked on projects in North, Central and South America, Africa, Europe, and SE Asia.