

Project Profile

Project Name:	Quantitative Risk Assessment of Typical Structures and Infrastructures Subject to Induced Seismicity
Project Number:	ER-Seismic-2021-02
Proponent:	Gennaro Esposito, Geo-Hazard Risk and Dynamics (GHRD)
Funding Envelope:	Environmental Research—Induced Seismicity
Timeframe:	September 1, 2020, to September 30, 2023

Project objectives

The objective of this project is to develop quantitative risk assessment (QRA) tools to assess the vulnerability of assets to induced seismicity. Assets include residential building spread out over a community or region, and linear assets such as bridges, small dams, and pipeline networks.

This project links to the BC Government’s Scientific Review of Hydraulic Fracturing in B.C. (February 2019)

- 5.3.4--Seismic Hazard Assessment (Recommendations). Develop quantitative seismic hazard assessment tools for assessing vulnerability of residential houses and dams to induced seismicity.

Project description

The project is part of a PhD program in the Department of Engineering Mathematics at Dalhousie University, NS. The main research will determine the target reliability levels and resistance factors for the seismic design provisions given in the Canadian structural design codes. The induced seismic scope of this project is part of the main PhD program and will cover the response of the built environment to induced seismic events.

Project deliverables

The deliverables from this project include the following:

1. Final Report summarizing the findings and implications.