

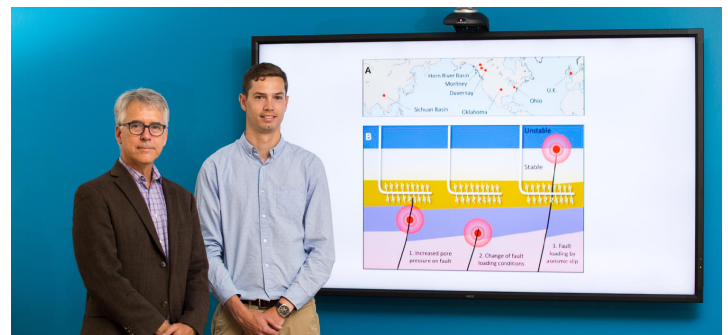
## Reducing the Risk of Induced Earthquakes

### Who We Are

ASEISMIC Solutions is developing software solutions to enable energy projects by reliably reducing the financial, environmental and social risk of induced earthquakes due to underground fluid injection. It was incorporated in 2019 as a spin-off company from the University of Calgary. The team is lead by co-founders **Dr Thomas Eyre (CEO)** and **Prof David Eaton (CTO)**, leading experts in the field of induced earthquakes. We have already completed several projects for oil & gas and geothermal companies to analyze the seismic hazard associated with their operations.

### The Problem

**Induced earthquakes** have become an increasingly important problem for industry to address over the last 10 years due to the introduction and large scale-up of large-scale multistage horizontally-drilled **hydraulic fracturing** operations in the oil and gas industry and the naissance of green industries such as geothermal and **underground carbon storage**. A significant number of earthquakes have been generated in Western Canada and globally, posing a nuisance to local communities and potential risk to infrastructure and local populations. However, existing tools have been designed for other purposes, and do not provide a comprehensive solution for seismic risk assessment and mitigation. The financial impact of induced seismicity on asset valuation is extremely significant with potential of hundreds of millions CAD in discounted value. Production pauses caused by events exceeding management thresholds can cost > hundreds of thousands of dollars, and wells abandoned due to induced earthquakes or even moratoriums on production in susceptible regions could cause much greater losses. The compounded effect in terms of unfulfilled production, loss of social and legal license to operate, or the opportunity costs of not being able to operate in some areas due to perceived risks can be estimated in **billions of dollars**.



Founders: David Eaton (CTO) and Thomas Eyre (CEO)

### The Technology

We have developed a novel user-friendly software package to provide a quantitative tailored risk assessment. The probabilities of generating earthquakes of a certain magnitude can be estimated based on the site-specific geological conditions and modelled injection scenario to give a **site-specific probabilistic assessment** of how the probability of exceeding regulated thresholds changes based on different treatment designs. The tools can therefore be used for **operational design, pre-operational hazard assessment, and mitigation planning**, which are crucial to successful operations, especially in high-risk areas where such assessments are mandated by regulators.

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New science
-   
Patent pending
-   
Software tool
-   
Forecasting

 Produce pre-operational mitigation and response plans

