



As we navigate the profound shift towards sustainable energy sources, countless forthcoming technologies will rely, in some form, on the responsible and secure utilization of subterranean resources for both long-term and periodic storage. In Dr. Gonzalo Zambrano Narvaez's capacity as an Assistant Professor specializing in Geotechnical Engineering, with a specific emphasis on Subsurface Energy, his research focuses on ensuring the reliability of various subsurface energy resources, such as H<sub>2</sub>, geothermal energy, and the deep borehole disposal (DBD) of small modular reactor (SMR) nuclear waste. Additionally, Dr. Zambrano - the Subsurface Energy Research Group [SERG] - and Dr. Rick Chalaturnyk - the Reservoir Geomechanical Research Group [RG]<sup>2</sup> are committed to cultivating a new generation of engineers equipped to tackle contemporary challenges of the energy landscape. DBD is under consideration for SMR waste management, particularly for intermediate level waste (ILW). The initial phase of this study is supported by Future Energy Systems at University of Alberta.

### **MSc position**

- Modelling the thermo-hydro-mechanical aspects of deep borehole disposal (DBD) emplacement

Dr. Gonzalo Zambrano Narvaez invites applications for one funded MSc positions in the broad interdisciplinary areas of experimental/numerical thermo-hydro-geomechanics studies to investigate potential deep borehole disposal solutions in Alberta and Saskatchewan for used ILW fuel from SMRs. Successful candidates will work in the SERG at the University of Alberta starting Winter 2025. These positions will combine both teaching and Research Assistant responsibilities.

Enquiries and applications (CV, transcripts, and personal/research statement) can be sent to Dr. Gonzalo Zambrano Narvaez ([gonzalo@ualberta.ca](mailto:gonzalo@ualberta.ca)).