

Wednesday, **March 21** – 12:30 pm – *Acadia University*

Room 336, Huggins Science Hall

CSPG University Outreach Lecture Tours

Evolving Towards the Modern Geoscientist in the Petroleum Industry

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Within the last 10 years, the oil industry has seen record high oil prices, as well as extended periods of depressed lows.

Canada in particular has this issue amplified as most of the resource left is locked in capital intensive projects which look like less favorable investments compared to oil resources in other countries, particularly at the “lower for longer” oil prices. Canada also suffers from a lack of transport capacity and strict, though necessary environmental regulations which force companies to sell oil at a discount relative to their American counterparts. These complications have caused great unrest for the Canadian oil industry, as companies struggle with how to remain competitive when the future of Canadian oil is so uncertain.

Compounded on this, like most other industries, the oil business is undergoing the 4th Industrial revolution. Oil companies produce gigabytes of information every day, be it conventional/unconventional fields with 1000s of wells, or oil sands operators, which have integrated digital gauges on every piece of equipment. Data analytics is a field which is emerging as a new cornerstone of any oil company and allows for increased efficiency and optimized production. Geology is not immune to this data revolution. As mentioned, oil fields have 1000s of wells, each of which has its own full suite of logs, 1000s of metres of core, and most of the field have full 3D, if not 4D seismic. Current geoscience software can create cross sections that it used to take hours to assemble. They can generate structural and isopach maps simultaneous in a few seconds, and produce 100s of pool volumetric scenarios in a matter of minutes.

All of these factors are changing the game of petroleum geology in Canada. Companies can get by with fewer geologist than ever before and with the current computing power, these fewer people can be more efficient than an entire traditional geoscience team. Essentially, one might say that traditional role of a geologist is dead in this new oil environment.

With all of this pessimism, one might ask why a new graduate would ever consider such a volatile industry. Like a phoenix rising from the ashes, it is the dawn of a new age of opportunity for the new, fully integrated geoscientist. New graduates have a tremendous opportunity in today's oil business if they can focus on the right building blocks that will help them to do things that established geologists never even imagined was possible. This talk will focus on how a new graduate can build their geoscience toolkit to improve their chances of success in increasingly competitive Canadian oil industry.