REDEVELOP in January 2020.

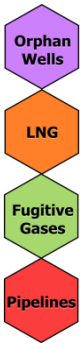
It's a new year and REDEVELOP has a new website and a brand (REDEVELOP.CA). Training graduate students to work across disciplines, distance and cultures, with the view that responsibly-developed unconventional resources are the key to Canada's transition to a low-carbon energy future, environmental sustainability and socio-economic stability. Now in our 3rd year, we currently have 16 trainees *(or challengers)* and 44 trained alumni or HQPs *(highly qualified professionals).* With our new summer internship program, 2 Indigenous undergraduate students received field and lab skills training and the opportunity to explore MSc options.

How REDEVELOP Works.

Training is delivered to graduate students from Geoscience, Engineering and Public Policy through *The REDEVELOP Challenge.* Multi-university, interdisciplinary teams are each tasked with finding solutions to a scientific question/problem impacting Canada's energy sector. Each team elects a project manager, conducts weekly meetings and engages with more than 20 technical experts and 12 Indigenous and policy experts at our panel discussions hosted by GEOLOGIC SYSTEMS in November. Each team, with the help of one of our 11 researchers and any mentors they recruit, develops a technical research question (and solution), a policy angle and some Indigenous perspectives. Training in communication, industrial occupational (I/O) psychology, Indigenous relations, project management and GeoScout™ occurs Dec-Apr. Teams communicate their findings at our May conference with: a scientific poster, a policy paper, a 90s video for a general audience, and a 15-min presentation to a technical audience, followed by a 30-min Q&A in *Dragon's Den* format.

WANTED: Dragons from industry/government for this year's *REDEVELOP Challenge:* **Mon. May 4 – Tues. May 5**, and Energy Champ Panelists. Volunteers please enquire with the Project Manager and ***SAVE THE DATES!***

Why it Works.



REDEVELOP works based on *cause-and-effect*. Energy problems are in the headlines of traditional and social media daily. While students may be motivated to research the cause of the problem and the people affected by it, what really drives this program is their desire to develop a solution; a positive effect.

In 2020, we have a team working on an evaluation system to repurpose orphan wells, and an LNG team doing an environmental (cost) – economic (benefit) analysis. The Fugitive Gases team is investigating the evolution of well cement seals, and there's a team developing a solution to the bitumen transportation bottleneck.

Our industry friends have come to expect quality work from REDEVELOP students and we aim to please! The 2019 winners, Yiru Zhou (UA), Mei Li (UT), Neil Fleming and Ryan Green (UC), used ground motion in the Traffic Light System to estimate damage caused by induced seismic events.

Dragons, John Nieto (Canbriam Energy), Deanna Burgart (Indigenous Engineering Inclusion) and Jamie Wills (Waterline Resources), surrounded by the 2019 Challengers and our Conference Planning Committee of 2018 HQPs.

2019 Panelists, Brian Schulte (Schiefer Consulting), Jim Reimer (TCL), Heather Lemon (AER), Lars DePauw (OWA), and Mike Johnson (CER), discussed orphan wells, legacy pipelines and the carbon tax.

Training is both collaborative and competitive, pushing students to work outside of their comfort zones. Graduate degree programs, particularly in the sciences, focus on developing depth of knowledge in a specific area of research to establish expertise, leaving little time for soft-skills development for effective application of that expertise.

A cohesive, interdisciplinary team of professionals distributed across the country is an achievement in collaboration, involving self-awareness, humility, tolerance and appreciation of others. A high-functioning team with these attributes and the capacity to meet deadlines with quality outputs in a competitive arena is an asset to any employer. A foundational understanding of Indigenous history in Canada, the Truth and Reconciliation Calls to Action, and the cultural importance of relationship-building are the building blocks that all REDEVELOP students earn. Students engage with Indigenous elders and experts to discuss the differences between western and traditional approaches to problem-solving.

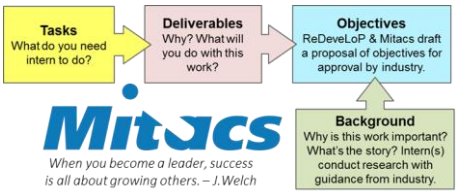
ITP Metrics

INDIAN RESOURCE COUNCIL

Collaboration with Psychology, the IRC, and the WSL yields workshops in communication and Indigenous relations for students.

Evidence it Works.

The value of REDEVELOP, as a training program, is evident in our student tracking. More than 15 of our HQPs have completed **internships** with: CSUR, Chevron, Encana, Suncor, Teck Resources, AER, TransCanada, Petronas Canada, Tourmaline Oil, CleanTech Geomechanics, Peto MacCallum Consulting Engineers, Black & Veatch, and Alberta Culture, Multiculturalism and Status of Women.



MITACS and REDEVELOP work with industry to define projects and employer-match funding (of $7,500 each) for a 4-month internship.

Three of our HQPs, Earl, Edouard and Linh, have completed their master's degrees and gone on to doctoral programs in Civil Engineering and Economics. More than 10 of our HQPs have graduated from their academic degree programs and are **employed in Canada and abroad**, as: a Seismologist at AGS, Policy Analyst at The Fraser Institute, Energy Trader at TransAlta, Policy Analyst at Canada West Foundation, Stewardship Advisor at Encana, Program Manager at Terra Logix Solutions, Development Geophysicist and Data Scientist at Chevron, Processing Geophysicist at CGG, Data Analyst at the Canada China Business Council, Regulatory Analyst at CP Rail, and an Analyst in Indigenous Services at MNP.

Conference Highlights for 2020.

The conference is divided into three segments. Segments 1 and 2 will take place at the Hilton Garden Inn and are **FREE**. Segment 3 will be an all-inclusive field trip to the hot springs.

1. Core Conference – May 4-5 (Mon-Tue):

Features the *Dragon's Den*, poster session, video previewing and networking sessions. There will be **Energy Champ Panels**, given their popularity last year, and **we are open to topic suggestions**. Interested panelists please contact Celia Kennedy (PM). Maurice Dusseault (UW) will be bringing a whole team of SMEs for a Geothermal Panel on May 5.

Hilton Garden Inn

2. Workshops – May 6-7 (Wed-Thurs):

Among the workshops there will be a tour of the UC Isotope Lab as part of the Geochem Workshop by Bernhard Mayer (UC) and Karlis Muehlenbachs (UA) on May 6. Maurice Dusseault (UW) will give a Geothermal Workshop on May 7.

3. Foothills-to-Fairmont Field Tour - May 8-9:

FAIRMONT HOT SPRINGS RESORT

There will be an overnight geology trip to the Fairmont Hot Springs area to observe natural hydraulic fracturing. The tour will be scenic and informative, led by a top-notch team of experts: David Eaton and Per Pedersen (UC), Paul MacKay (Shale Petroleum), and Katherine Boggs (MRU). Guide books for the trip will be provided at a field trip primer given by Paul McKay and David Eaton as the last workshop of the day on May 7 (3:00 pm). The fee of $500 ($400 for students) gets you a seat on the bus (with a bathroom), accommodations and meals. Link to details.

This year's field trip is a collaborative effort with the folks at GeoConvention, where our student teams will be presenting.

geoconvention Calgary • Canada • May 11-13 2020

CSPG • CSEG • CWLS • GAC • MAC • IAH

Summer Internships

Indigenous undergraduate students currently enrolled in Geoscience or Engineering are invited to apply to the REDEVELOP Summer Internship Program.

2019 Summer Intern, Susan Machan, completed a BSc in Geology and part of her internship in the Geochemistry Lab to develop some analytical skills and explore MSc options.