



The [6th Annual REDEVELOP Challenge and Conference](#) is fast approaching, and we have a great many exciting things to share since our last newsletter.

REDEVELOP Challenge 2022

It seems so long ago! On May 9-10, 2022, we held our first in-person Challenge since 2019. Attendees from industry, government, academic, and Indigenous communities joined us to watch our multi-university, interdisciplinary teams in action. Each team had 20 minutes to articulate their story clearly and concisely for a technical audience. With a holistic approach to problem-solving, presentations included: (1) a scientific research question with both technical and environmental considerations, (2) a detailed summary of the policy issues and economic challenges, and (3) integration of Indigenous perspectives within criteria (1) and (2). They also prepared a 90-second video to deliver key messages to a general audience in *Super Bowl* fashion. Teams demonstrated the depth and breadth of their knowledge during the 45-minute Q&A that followed, in *Dragon's Den* format. The Dragons previewed the scientific posters and policy papers in April to give them time to prepare thought-provoking questions to explore the limits of each team's knowledge and to push them to consider all possibilities. Through this experience, the cohesiveness of each team as a functional group of diverse, interdisciplinary professionals was evaluated. The Dragons offered a range of expertise.



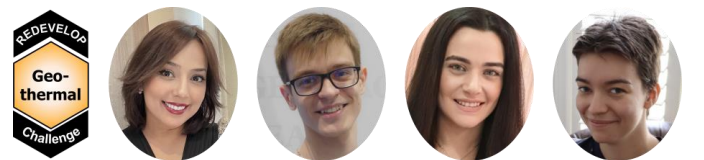
Anne Halladay has over 20 years of experience across Upstream and Downstream assets, and has worked internationally for a variety of multi-nationals, both on and offshore. She has extensive experience across CCS project development and operations in Canada, and is now the Director of Risk Management and Monitoring, Measurement, and Verification for CCS at Carbon Alpha. **Colin Anton** has always had a passion for bridging the gaps between Indigenous communities and the corporate energy world, between education to employment and employment equity, and between cultural awareness and privileged perception. Colin was raised by a single parent and brought up in the Cree culture, both on and off reserves, in Treaty 6, 7 and 8. Colin has spent 18 years working with various companies in global

energy, in Diversity and Inclusion, Human Resources and Community and Indigenous Relations. He is now the Indigenous Relations Lead at Gibson Energy. **Kirsten Marcia** is the founder of DEEP and its President and CEO. She has worked in the exploration industry for 20 years in commodities including diamonds, gold, uranium, and oil and gas. Most recently, Kirsten was a recipient of the 2022 Canada's Clean50 award for her inspiring leadership in the Renewable Energy category.

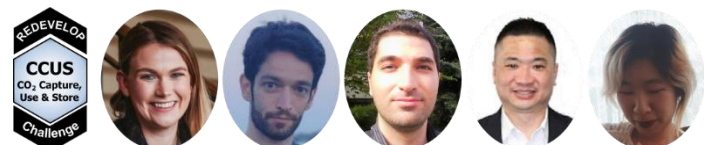
Training graduate students to work across disciplines, distance, and cultures builds self-awareness, tolerance, humility and diversity in problem-solving. Last year's teams produced outstanding work and the competition scores were very close. **Compressed Air Energy Storage, the winning team**, representing the Universities of Calgary, Toronto, and Waterloo, examined the feasibility of using salt caverns in Alberta to store compressed air energy, in collaboration with Cold Lake First Nation.



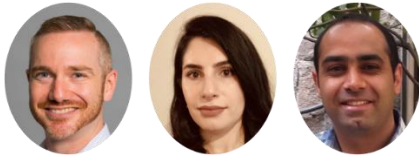
The **geothermal** team completed a techno-economic analysis of geothermal district heating in Chateh, Alberta. They addressed the feasibility of developing a shallow geothermal-powered district heating system for the Dene Tha' First Nations community.



The **CCUS** (carbon capture, utilization and storage) team proposed kelp farming as a means to offset CO₂ emissions. They delved into the techno-socio-economic costs and benefits of using kelp to sequester CO₂ both in the short and long term, working with Indigenous communities and other organizations near Vancouver to complete their project.



The **methane emissions** team investigated links between fugitive emissions from surface casing vent flow and mechanical wellbore characteristics by performing statistical analyses. They also reviewed and analyzed various directives associated with SCVFs, such as reporting, classification, and repair, examining these through a policy lens to understand if any roadblocks exist that could prevent effective mitigation of methane emissions.



Many thanks to the **student leadership team** who put in long hours to ensure that the conference ran smoothly and coached the teams with their presentations and videos: Evangeline Eldridge and Kevin Grimeau (U.Calgary), Lonn Brown and Yiru Zhou (U.Alberta), Aly Abdelaziz, Beza Haile, and Earl Magsipoc (U.Toronto). Special thanks to I/O psychology coaches, Samantha Jones and Madeline Springle.

Certifications

In addition to a range of technical workshops, students received training in industrial-organizational psychology strategies (8 h) for workplace leadership from the [ITP Metrics Lab](#), and Indigenous relations training (24 h) from the [Writing Symbols Lodge](#), both out of the University of Calgary.

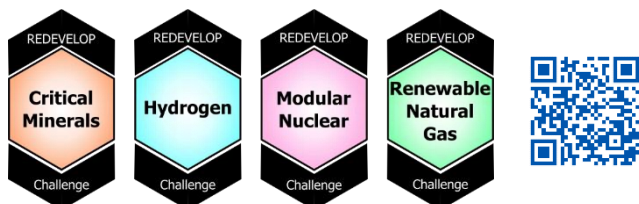
Indigenous Partnerships in Science

The 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) defined 17 goals for sustainable development. Goal #17 was the formation of partnerships to achieve the other 16 goals. **GeoConvention 2022** (June) saw the return of a unique technical session focused on Indigenous partnerships. The session was collectively hosted by the REDEVELOP students, staff, and collaborators. Special thanks to Thalia Aspeslet (Pieridae Energy) and Taylor Behn-Tsakoza (Tu Deh-Kah Geothermal). Congratulations to the CCUS team for an excellent presentation, winning Best Student Oral Presentation, and the Methane and Geothermal teams for being awarded Honorable Mention in the same category. Congratulations also to alumnae Ana Ortega Perez (2019-20 Pipelines team) and Kieran Marion (2020-21 LNG team) for being awarded Best Student Oral Presentation and Honorable Mention, respectively, for work related to their academic degree programs.



REDEVELOP Challenge 2023

This year's program kicked off in fall 2022 with 16 new graduate students from across Canada. This year, the teams will explore low-carbon energy and resource alternatives as follows:



We are hosting this year's in-person REDEVELOP Challenge on **May 10-11 2023** in Downtown Calgary. Space is limited – register now for free at [redevelop2023.eventbrite.ca!](https://redevelop2023.eventbrite.ca/)

This year's esteemed Dragons are eagerly anticipating the Challenge and the teams' presentations.



Joanne Martineau is Nehiyaw – Plains Cree from Frog Lake FN, and has Metis heritage. Joanne is a Professional Engineer, with a degree in Chemical Engineering and also has a second post-secondary designation in Business Administration with a major in accounting. She currently works for Inter Pipeline where she has recently moved to the role of Manager of Indigenous Relations, **Colin Anton** is reprising his role and returning for a second year. He has spent 18 years working with various companies in global energy, in Diversity and Inclusion, Human Resources and Community and Indigenous Relations. Colin is currently the Indigenous Relations Lead at Gibson Energy. **Leoni Rivers** is a member of the Squamish Nation, Gitxsan by birth, and she is an Indigenous Consultant with ample experience working in the public and private sector on major projects. Leoni is the Founder and CEO of Leoni Rivers Consulting.

Continuing Leadership

The REDEVELOP program continues to produce graduates with fantastic leadership, technical writing, and audio-visual presentation skills, all with important knowledge of alternative energy topics. Alumni Beza Haile, Earl Magsipoc, Hosein Seyed Ghafouri, Julie Younes, Katia Ossetchkina (U.Toronto), Serafim Grubas (U.Alberta), Hossein Tabatabaei, Jesus Rojas Parra, and Joelle French (U.Calgary), have taken on the role of academic advisors to this year's teams, along with conference planning. Alumni began stepping into this advisory role last year and it was an excellent experience for all involved.

The Future of REDEVELOP

REDEVELOP is a **\$1.65M** government-funded graduate student training program that was originally slated to come to an **end in May 2023**. In 6 years, we will have trained 121 students, who have published more than 30 peer-reviewed journal articles and completed 55 internships. We have developed a successful model that costs about **\$300k per year** to operate, most of which is paid out in scholarship funding (a tax incentive for corporate investors). Due to COVID-related factors, we anticipate having enough funds remaining at the end of this year to offer an **additional 7th year** at slightly reduced capacity – so look out for your invitation to the 2024 Challenge next year!

Over the past year or so, we have reached out to several of our collaborators to discuss the future of this program and the potential to **secure corporate funding** from partners willing to make either short (1 year) or long (5 year) commitments. There is a wide array of partnership options, ranging from **\$5k - \$300k+** and supporting everything from student training to field trips to the Challenge and program as a whole.

We are reaching out to all our collaborators to consider having a seat at the REDEVELOP table as we move towards the future of **low-carbon energy in Canada**. Your partnership can help ensure that REDEVELOP is able to continue training students in the coming years. For further information, please email the project manager directly at: redevelop.ucalgary@gmail.com.