

Technology Access Centre for Oil Sands Sustainability (TACOSS)

Northern Alberta Institute of Technology (NAIT)

📍 Edmonton, AB

TECHNOLOGY ACCESS
CENTRE FOR OIL SANDS
SUSTAINABILITY



ABOUT TACOSS

About Our Centre

The Centre for Oil Sands Sustainability (COSS) is a state-of-the-art research lab staffed by an expert team of applied scientists, engineers and technicians.

Our Vision

We are committed to a future where the environmental and economic challenges of the oil sands have been solved. In collaboration with our partners, our diverse and resourceful team is achieving this by applying scientific principles, bringing our knowledge to practice and by connecting partners with shared interest. This will lead to the restoration of pristine, functional landscapes for Albertans.

Our Mission

We bridge the gap between existing oil sands environmental research and relevant solutions, taking innovative ideas from bench to scale-up. We work with businesses and industry to develop technologies that improve the economic and environmental performance of the oil sands industry by validating near-market-ready technologies that relate to challenges and opportunities in this industry.

We are now a Technology Access Centre:

We have now joined a network of Canada's 60 TACs across the country. TACs are specialized applied research & development centres affiliated with publicly-funded colleges.

What this means for our clients:

We now offer businesses different ways to collaboratively access our state-of-the-art facilities and multidisciplinary teams of experts that can turn innovative ideas into market-ready products.

Our goal is to help Canadian-based businesses, especially Small and Medium-sized Enterprises (SMEs) – to get their products, processes and services market-ready by:

- Offering objective advice and specialized technical services;
- Providing training related to new types of equipment and processes; and
- Conducting applied research and development projects focused on company problems.



Our Commitment to Safety

At the Centre, we are committed to having a safe workplace for all of our staff, researchers, and visitors. We believe that safety is a top priority.

Why work with us?

Reliable Third-Party Technology Validator

NAIT ranked in Top 3 Research Institutions in Canada in 2019.*

**The annual ranking by Research Infosource Inc. tracks research income in the form of grants, contracts and contributions from partner organizations.*

The polytechnic also ranked first for “research intensity” - the amount of research income per researcher and placed seventh among larger institutions for both research income from industry (\$1.9 million) and the number of research partnerships (108).

<https://researchinfosource.com/top-50-research-universities/2019/list>

Unique Ability to Leverage Funds

As an educational institution, we have access to various grants for Applied Research projects in Alberta and Canada.

Our Talent, Your Advantage

Applied Research is what we do best. Harness the power of our expertise and culture of partnership.

Active Involvement of Students

Providing experiential learning to students.

Trusted Industry Advisor

We identify specific industry challenges and mobilize knowledge to overcome them. We are a preferred provider of technology services for many of our partners.


Friendly Intellectual Property (IP)

Industry maintains and advances the IP to commercialize and remain competitive. NAIT does not retain any interest in the IP.



Leveraging partnerships with other institutions and centers


We are a collaborative research group and work with partners across Canada and other centers at NAIT. We are also a member of the TAC network, connecting with 59 other TACs across Canada.

Contact TACOSS

 **Andrea Sedgwick**
Ledcor Applied Research Chair in Oil Sands Sustainability







 [+1-780-378-5067](tel:+17803785067)
 ASedgwick@nait.ca

 **Monica Franco Herrera**
Business Development Associate



 monicaf@nait.ca

 www.nait.ca/industry/applied-research/centre-for-oil-sands-sustainability
 [10210 Princess Elizabeth Avenue NW, Edmonton, AB, T5G 0Y2](#)
 **Services offered in:** English
 **Request Interactive Visit:** <http://interactivevisits.ca>



Follow Us:

Share with someone:

RESEARCH AND INNOVATION EXPERTISE

EXPERTISE

1. Analytical Chemistry
2. Mining Extraction and Efficiency Technologies
3. Tailings Treatment Technologies
4. Industrial Water Treatment Technologies
5. Oil Sands Extraction Technologies

Previous Research Projects

- **Water Treatment Technology:** Development of a passive, plant-based naphthenic acid remediation technology for treatment of oil sands process-affected water (Phytoremediation)
- **Water Treatment Technology:** Membrane Technology Assessment Program (MTAP) that validates novel produced water treatment technologies developed by industry and small and medium-sized enterprises (SMEs) in Western Canada
- **Oil Sands Extraction Technology:** GHG Emission Reduction, economic growth and diversification (CCITF)
- **Tailings Management Technology:** Fundamental characterization and dynamics of clays and clay/flocculents agglomerations – to develop methodologies and broad understanding of mature fine tailings (MFT) composition and characterizations
- **Tailings Management Technology:** Optimization, development and assessment – to implement standardized methodologies to support industry’s ongoing improvements to technologies
- **Tailings Characterization and Identification technologies** – to assess existing and identify new technologies to improve the cost and effectiveness of characterizing clay types and clay/flocculent behaviours

Fields of projects

- | | |
|--|--|
| • Solid/Liquid Separation | • Technology Validation for Oil Sands Tailings |
| • Characterization of Aqueous Materials | • Characterization of Oils and Contaminants for Pipelines |
| • Characterization of Oil-Based Materials/Sediment & Water Analysis in Oil | • Thickeners, clarifiers, high density flocculation, filter press, centrifuge), flotation. |
| • Characterization of Mineral Solids & Ashes | • Major anions & cations, naphthenic acid fraction compounds, slurry viscosity, slurry yield stress. |

