



GNCTR 2024

Information Package

The 50th Annual Great Northern Concrete Toboggan Race
St. John's, Newfoundland & Labrador



RE: Formal Invite to Participate in GNCTR 2024

To Whom It May Concern,

Memorial University of Newfoundland (MUN) is excited to invite you, to participate in the Great Northern Concrete Toboggan Race (GNCTR) 2024 in St. John's, Newfoundland & Labrador between February 7th, 2024 – February 11th, 2024. The competition will be hosted in Atlantic Canada for the first time in the competitions 50-year history and the 2024 Organizing Committee believes there is no better time, for our Atlantic-University counterparts to join the GNCTR community.

GNCTR is the longest running national engineering, student design competition in Canada and brings together nearly 500 engineering students annually. Competing teams will each design and build a bespoke toboggan, capable of steering, braking and most importantly, capable of safely carrying five competitors down a mountain.

MUN had a long absence from the GNCTR competition until a small group assembled together to participate in GNCTR 2018, located in Waterloo, Ontario, igniting the T-Bog spirit on the east coast of Canada. The concrete toboggan program at MUN has continued to grow since their inaugural return, annually participating in GNCTR since 2018 and now have a passionate group of alumni that form the GNCTR 2024 Organizing Committee. GNCTR has played a vital developmental role for each committee member as they started their careers and are excited to give back to a competition that has had a profound effect on each of them.

It has been noted that MUN has been the only Atlantic Canadian University participating in GNCTR since the team returned to the competition in 2018. GNCTR has had an incredibly positive impact on the participants of our local concrete toboggan team, and the 2024 Organizing Committee would like to share this experience with you by inviting your school to attend the competition.

Thank you for your consideration and we hope to see your school in St. John's next February, for GNCTR 2024.

Cheers,

On behalf of the Memorial University of Newfoundland GNCTR 2024 Organizing Committee.

Mark Rowsell

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Table of Contents

History of GNCTR	3
GNCTR 2024	3
Competition Schedule	4
What Does the Competition Consist Of?	5
Competitor Interaction Day	5
Technical Exhibition Day	5
Race Day.....	6
Spirit.....	6
Why Participate in GNCTR?	7
Student Development.....	7
Engineering Community	8
Be Part of History	8
What Options Does My School Have for Participation?.....	8
Competing Team – Full Participation	8
Non-Competing Team.....	8
Send Delegates to Observe	9
Getting You and Your Toboggan Here	9
Contact Us.....	9



History of GNCTR

The Great Northern Concrete Toboggan Race (GNCTR) is the longest running national engineering competition in Canada. The first race was co-hosted by the University of Calgary and University of Alberta in Red Deer. Each year since, GNCTR has been held in a different city in Canada and typically rotates between the East and West universities.

GNCTR brings together nearly 500 engineering students from various disciplines and almost 20 institutions across Canada and the USA. Students are tasked to build a toboggan equipped with a concrete running surface that weighs a maximum of 350 lbs and can safely carry 5 students. Past toboggans have reached max speeds of up to 80 km/hr and as such, the competition has strict safety requirements which must be met. Toboggans must also have fully functional steering and braking systems to be allowed to race. Teams are judged in multiples categories and awards are presented for the following:

- GNCTR Excellence in Safety
- Most Innovative Design
- Best Braking Design
- Best Technical Display
- Best Technical Presentation
- Fastest Run Time
- Most Sustainable Team
- Best New Team
- Best Team Spirit
- Best Theoretical Toboggan
- Best Concrete Mix Design
- Best Steering Design
- Best Technical Report
- Best Performing Toboggan
- Best Braking Performance
- Most Improved Team
- People's Choice
- Best Costumes

GNCTR 2024

GNCTR 2024 will be hosted in St. John's, Newfoundland & Labrador between February 7th, 2024, to February 11th, 2024. The GNCTR 2024 Organizing Committee (OC) consists of Memorial University of Newfoundland (MUN) alumni that graduated in the span of 2018-2023 that have all participated in GNCTR. GNCTR has played a vital developmental role for each committee member as they started their careers and are excited to give back to a competition that has had a profound effect on each of them and to host the 50th Annual GNCTR event for the first time in Atlantic Canada.



Competition Schedule

The following competition schedule outlines the daily activities that competitors will partake in during GNCTR 2024.

Time	Wednesday February 7 th	Thursday February 8 th	Friday February 9 th	Saturday February 10 th	Sunday February 11 th
6:00 AM	Arrivals & Registration (9:00 AM – 6:00 PM)	Competitor Interaction Day (All Day)	Technical Exhibition Day (All Day)	Race Day (White Hills in Clareville) (6:00 AM – 7:00 PM)	Teams Depart (All Day)
7:00 AM					
8:00 AM					
9:00 AM					
10:00 AM					
11:00 AM					
12:00 PM					
1:00 PM					
2:00 PM					
3:00 PM					
4:00 PM					
5:00 PM					
6:00 PM	Opening Ceremonies (6:00 PM-11:30 PM)			Closing Ceremonies (7:00 PM – 11:30 PM)	
7:00 PM					
8:00 PM					
9:00 PM					
10:00 PM					
11:00 PM					

What Does the Competition Consist Of?

Competitor Interaction Day

Competitor Interaction Day is traditionally the first full day of GNCTR as Day 1 consists of teams arriving to the planned destination, being oriented on competition specifics and code of conduct, and kickstarting the competition with the opening ceremonies. Competitor Interaction Day is geared towards developing the comradery amongst the students, as the OC plans activities throughout the day in the host city and the competitors are provided opportunities to mingle with students from other teams.

The OC for GNCTR 2024 plan to showcase Newfoundland & Labrador's unique culture on Competitor Interaction Day. Students will be transported in groups to major tourist attractions of St. John's throughout the day where fun activities would be planned at each location. Competitor Interaction Day sets the table for creating friendships amongst the competitors in this unique community known as GNCTR.

Technical Exhibition Day

The technical aspect of building a concrete toboggan is on full display during Technical Exhibition Day. Participating teams will prepare technical displays that are unique to their team's theme and will showcase their completed concrete toboggans for all to see, as Technical Exhibition Day is traditionally open to the public for viewing. Teams have the opportunity to discuss the design and process of building their toboggan, while demonstrating their technical skills and creative thinking.





There are also several activities that are imperative to the competition that are conducted on Technical Exhibition Day. In addition to their technical displays, teams are required to prepare two technical presentations, one for their concrete and reinforcement design and another for their superstructure, steering & braking design. Teams will present these to the technical judges for scoring. Safety reviews are also conducted on an ongoing basis throughout the day by the competitions designated safety judges, to ensure the concrete toboggans are deemed safe to race.

Race Day

Race Day is the cherry on top of the competition sundae where the competitor's hard work and dedication are displayed on the race hill. Teams participate in three separate race events that judge different aspects of their toboggan designs. The Drag Race tests the teams top speed and braking system efficiency, the Slalom Race tests the effectiveness of the team's steering system and the King of the Hill Tournament, is a knockout tournament to prove whose toboggan is the best.



Spirit

GNCTR is not only unique for its technical aspect, but it is also a highly spirited competition. Spirit is an incredibly important aspect of GNCTR, and each team has a unique theme that they showcase throughout the competition. Teams incorporate their themes into their concrete toboggan designs, their technical displays and team uniforms.



Spirit is so important that it is considered in the evaluation of teams when conducting the final scoring and it requires designated spirit judges, to evaluate each team's GNCTR spirit. The spirit judges will also have various spirit challenges that teams are required to complete throughout the competition and in the months leading up to GNCTR. The passion each team brings to this competition is truly incredible and can only be understood by participating.



Why Participate in GNCTR?

Student Development

GNCTR is more than a five-day competition. Teams work all year to design and build their toboggans, enhancing student's technical abilities and providing them the opportunity to exercise engineering judgment in a real-world scenario. Students are exposed to concrete mix design theory, hands-on experience working with concrete, superstructure design, drafting, and detailed structure analysis. By participating in GNCTR, students have an opportunity to put the theory they learned in school to practice and be a part of a welcoming and lively community of peers.



Engineering Community

GNCTR allows students to meet with industry representatives, potential employers, and students across the country, creating a strong professional network with peers that can lead to rewarding career opportunities and the betterment of our national engineering community.

By competing in GNCTR, students will gain valuable exposure to professionals of the engineering community. GNCTR relies on corporate sponsorship to operate and in return, these companies have exclusive event access and positive brand reinforcement to promote recruitment opportunities for current students and recent graduates. Industry leaders will attend the competition to watch the creativity and skills of the next generation of engineers and the OC shares a resume bank of every competitor involved in GNCTR to sponsors for recruitment purposes.

Be Part of History

The 2024 OC believes that there is no better time for the Universities from our Atlantic University counterparts to join the competition, as the competition has never been hosted in Atlantic Canada in its 50-year history, so if not now, then when? The 2024 OC is eager to showcase Newfoundland and Labrador's unique culture and hospitality to students from across Canada and encourage the Atlantic Provinces to join. GNCTR has had an incredibly positive impact on the participants of the local concrete toboggan team and the 2024 OC, who want to share this experience with you.

What Options Does My School Have for Participation?

Competing Team – Full Participation

If you're sold on GNCTR and the interest is high enough, your school can fully participate in the competition. This would include completing all reports, project schedules and budgets, safety documentation, building a functioning and safe toboggan, and completing all of the spirit challenges. The OC can provide materials to get the team started in the right direction.

Non-Competing Team

Another option is to send a non-competing team to GNCTR. In this case, the team would not be required to complete all of the competition deliverables and can fully participate in the event, without being evaluated. A non-competing team would still be required to provide a safety report and pass the safety inspection at competition to participate in any races.



Send Delegates to Observe

Lastly, your school can send delegates to observe the competition. It could be members of the school's student society, faculty members or individuals who would be interested in starting a concrete toboggan team at your school the following year. Seeing the competition live would provide a live sense of what the competition entails, and the inputs required to possibly compete in the future. Delegates would not be required to stay for the full event, although, the OC highly recommends that they do to understand the competition's full experience.

Getting You and Your Toboggan Here

Newfoundland & Labrador has famously coined the phrase that "in this province, there's no such thing as an accidental tourist". It's true. It takes serious, deliberate actions to get here, but it isn't impossible. Traveling to St. John's by plane is the most popular option with Air Canada, WestJet, Porter, and Swoop servicing the St. John's Airport (YYT).

Atlantic Universities would also have an easier ability to avail of travelling by vehicle through the Marine Atlantic ferry crossing from North Sydney, Nova Scotia to Port Aux Basques, Newfoundland & Labrador. Teams would also have to allocate enough time to cross the island which is a 9-hour drive from Port Aux Basques to St. John's along the Trans-Canada Highway.

Team's concrete toboggans would have to be shipped in advance of the competition. The OC coordinates a shipping partner that teams can choose to avail of for cross-country shipping and a storage warehouse for receiving and storing toboggan crates until the competition.

Contact Us

The OC hopes that this information package was beneficial and that it peaks your school's interest. Please contact us at info@gnctr2024.ca should you have any questions or inquiries; the OC would be happy to help! The OC's co-chairs are also willing to host an online meeting to further discuss your school's interest in GNCTR.

Follow us on Instagram @gnctr2024 for keeping up with the latest fun, updates or reference our website www.gnctr2024.ca for more formal information.