

8 July 2024

Welcome to TRISEP!

Erica Caden

Research Scientist

Chair, TRISEP 2024

SNOLAB | July 8-19 2024

PI · SNOLAB · TRIUMF

TRISEP

$$\frac{dR}{dE_R} = \frac{\rho_0}{m_N m_N} \int_{v_{min}} v f(\vec{v}) \frac{d\sigma}{dE_R} dv$$

STANDARD MODEL PHYSICS AND BEYOND
STATISTICS & COMPUTING FOR PARTICLE PHYSICS
DARK MATTER CANDIDATES AND DETECTION
NEUTRINOS PHYSICS
LONG BASELINE NEUTRINO MEASUREMENTS
NEUTRINOLESS DOUBLE BETA DECAY
FOCUSED LECTURES ON UNDERGROUND TOPICS

$$\frac{\Delta m_{ij}^2 L}{4E} \approx 1.267 \frac{\Delta m_{ij}^2 [eV^2] \times L [km]}{E [GeV]}$$

Logos at the bottom: Arthur B. McDonald Canadian Astrophysics Physics Research Institute, CINP ICPN Canadian Institute of Nuclear Physics Institut canadien de physique nucléaire, PERIMETER INSTITUTE, SNOLAB, INSTITUTE OF PARTICLE PHYSICS, TRIUMF

Welcome from Director

Land Acknowledgment

SNOLAB is located on the traditional territory of the Robinson-Huron Treaty of 1850, shared by the Indigenous people of the surrounding Atikameksheng Anishnawbek First Nation as part of the larger Anishinabek Nation.

We acknowledge those who came before us and honour those who are the caretakers of this land and the waters.

Safety

In case of a fire alarm, leave the building following the direction of university staff.

- Security guards are available 24 hour a day, 7 days per week, 365 days per year.
- A security guard operates the Security Control Centre (SCC) at 705-673-6562 or Ext 6562 at all times. Shifts are staffed by a male and female guard. All guards are trained in First Aid, CPR and defibrillators and possess a valid Ministry issued security licence.
- Emergency Contacts: Contact the correct services for the Laurentian University area in case of an emergency or a non-emergency concern
- Mobile Bluelight: Send your location to Laurentian University security in real-time in case of a crisis
- WorkAlone: Use the app to "check in" with you periodically while working alone or during late hours. If you don't respond, the app will alert Campus Security.
- Friend Walk: Send your location to a friend through email or SMS on your device. Once the friend accepts the Friend Walk request, the user picks their destination and their friend tracks their location in real time; they can keep an eye on them to make sure they make it safely to their destination.
- Virtual WalkHome: Allow Campus Security to monitor a user's walk. If a user feels unsafe when walking on campus, they can request a Virtual WalkHome and a dispatcher on the other end will monitor their journey until they reach their destination.



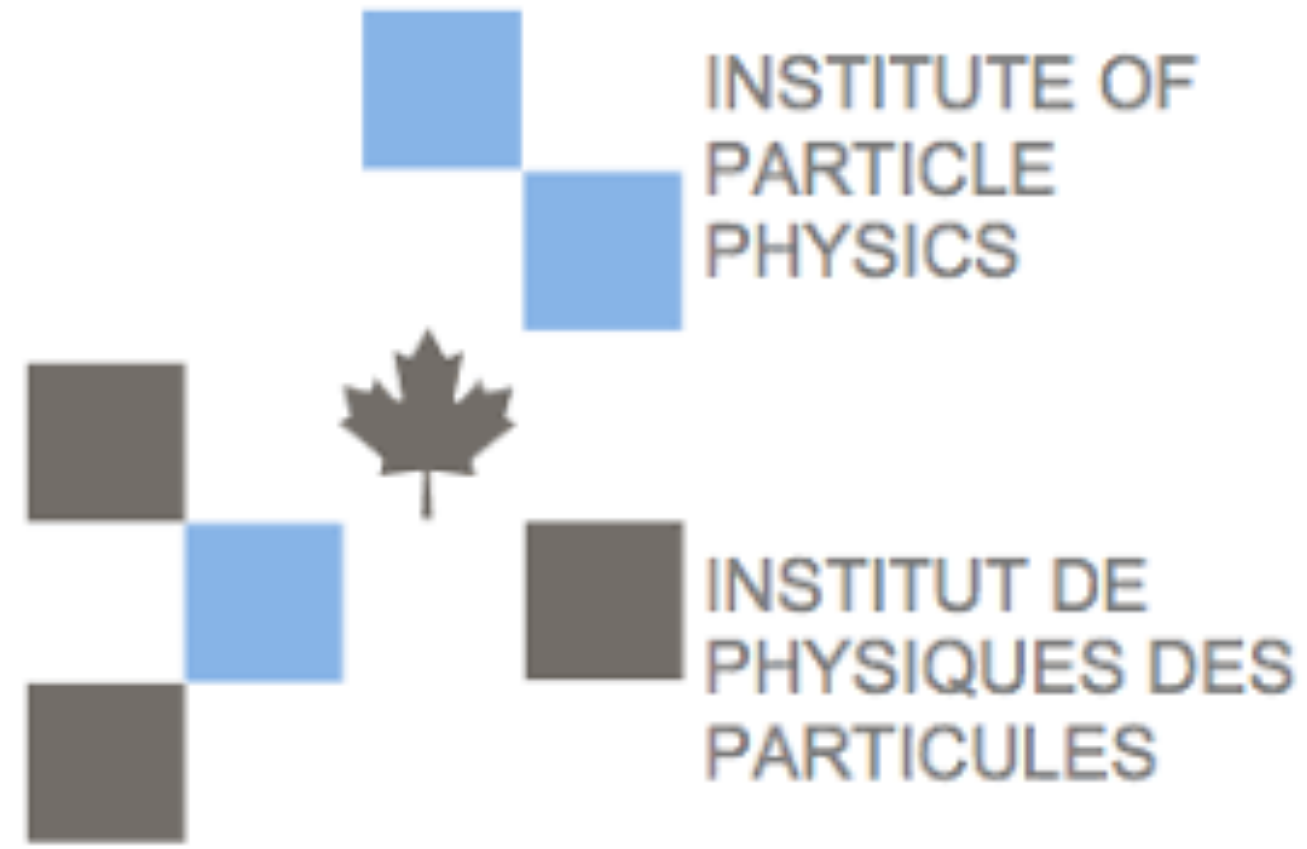
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Sponsors



Arthur B. McDonald
Canadian Astroparticle Physics Research Institute



TRi-Institute School on Elementary Particles is hosted annual on a rotating basis between TRIUMF, Perimeter Institute, and SNOLAB since 2013.

SNOLAB's turn has a more experimental/collaborational feel, with group projects that you will complete during your time. We have a great slate of lecturers in Neutrino and Dark Matter physics, as well as statistics in particle physics and computing techniques. We have some shorter lectures on related topics: dark matter chemistry, underground biology, low background techniques, and non-academic careers.

We hope you will enjoy the Laurentian University Campus and the University of Sudbury Residences

Code of Conduct



SNOLAB is committed to providing safe and inclusive spaces for all staff, students, visitors, and delegates for both in-person and virtual events. Event attendees are expected to be respectful of all individuals and SNOLAB will not tolerate discrimination based on gender identity or expression, sexual orientation, disability, physical appearance, race, religion, ethnicity, age, level of education, field of education, political affiliation, or any other characteristics.

Harassment or inappropriate behaviour or speech is not acceptable at any SNOLAB events. Participants who violate these rules will be removed from the event at the discretion of organizers, and such behaviour may affect the individual's ability to participate in future SNOLAB events.

Code of Conduct



All event attendees are expected to exhibit the following:

Academic integrity:

- Display intellectual honesty and accountability
- Exercise authority responsibly
- Avoid conflict of interest
- Provide professional feedback in a constructive and respectful manner
- Create and maintain a professional environment characterized by tolerance and respect

Equity, Diversity, and Inclusion:

- Respect differences
- Welcome and include all participants
- Value all contributions, regardless of who they are coming from
- Consider adding your pronouns to your display name

Privacy

- Do not record events or take screenshots of virtual events without permission
- Keep personal information shared with attendees private
- Always ask permission before sharing others' contact information

LUL-Guest

Daily Schedule



8:30-10:00	Lecture
10:00-10:15	Break
10:15-11:45	Lecture
11:45-12:45	Lunch
12:45-2:15	Lecture
2:15-2:45	Break
2:45-4:00	Lecture
4:00-5:00	Group Work



Arthur B. McDonald

Canadian Astroparticle Physics Research Institute

The McDonald Institute is Canada's network for astroparticle physics research, uniting researchers, theorists, and technical experts within one organisation. Located at Queen's University, the McDonald Institute has 13 partner universities and research institutes across the country, all of which are key players in Canada's astroparticle physics community.

www.mcdonaldinstitute.ca



MI-HQPAC

McDonald Institute **Highly Qualified Personnel** Advisory Committee

MI-HQPAC

McDonald Institute **Highly Qualified Personnel** Advisory Committee

- Meets monthly to develop ideas and initiatives
- Hosts monthly virtual community open discussions to talk about areas of improvement for the HQP Community
- Has a ~\$10k budget to make things happen
- Advises the McDonald Institute on improvements for the HQP Community
- Is a great way to connect and practice community leadership!

The Committee welcomes you to their next open discussion!

Are you HQP? Probably! All Graduate, PhD Students, Postdocs, PDFs, and early career researchers working or studying astroparticle and related physics, or in cross/interdisciplinary research involving astroparticle and related physics.



mcdonaldinstitute.ca/hqpac

MI-HQPAC

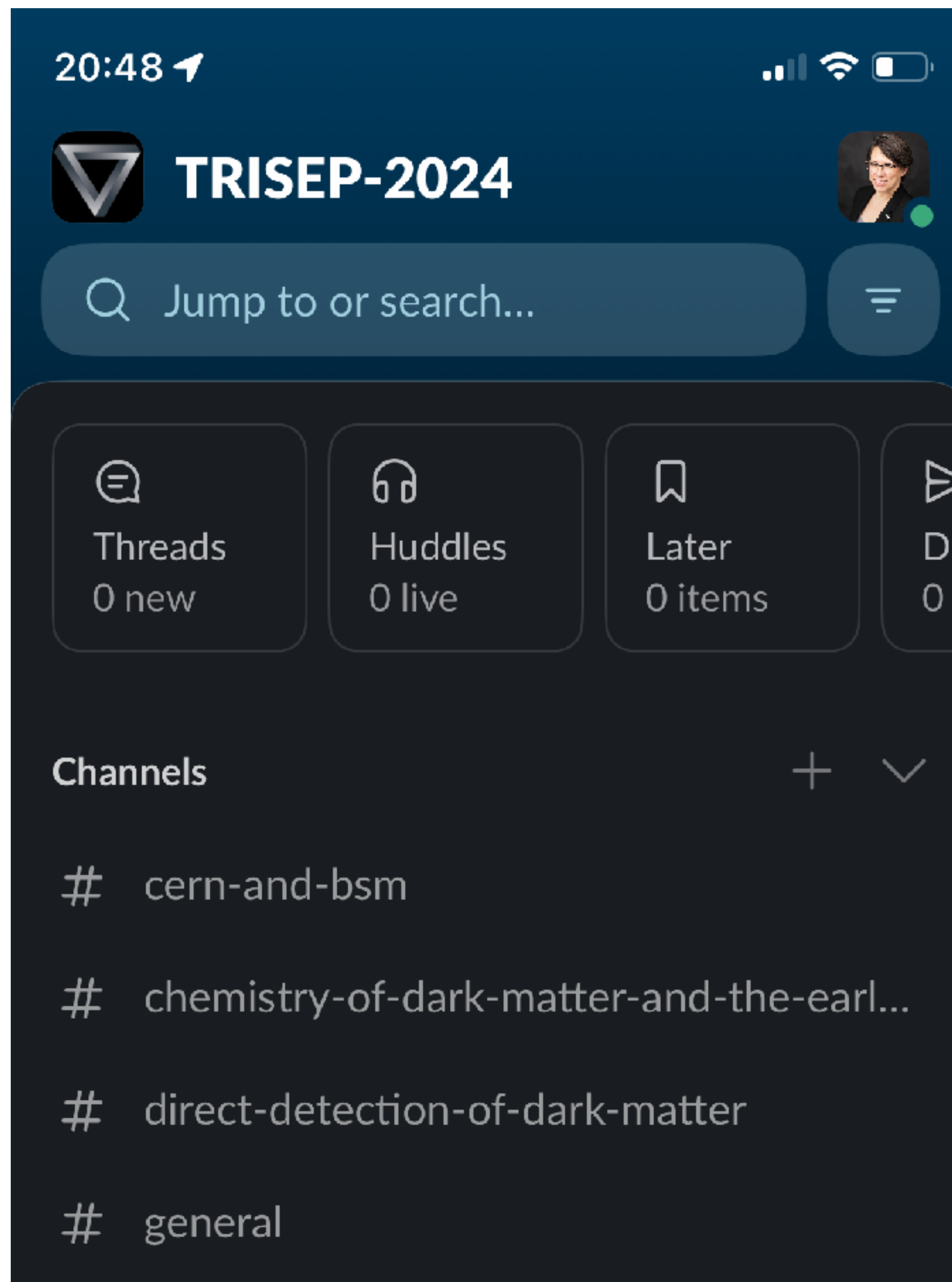
McDonald Institute **Highly Qualified Personnel** Advisory Committee

The HQPAC welcomes all students and researchers in astroparticle and related physics to connect and grow the research community

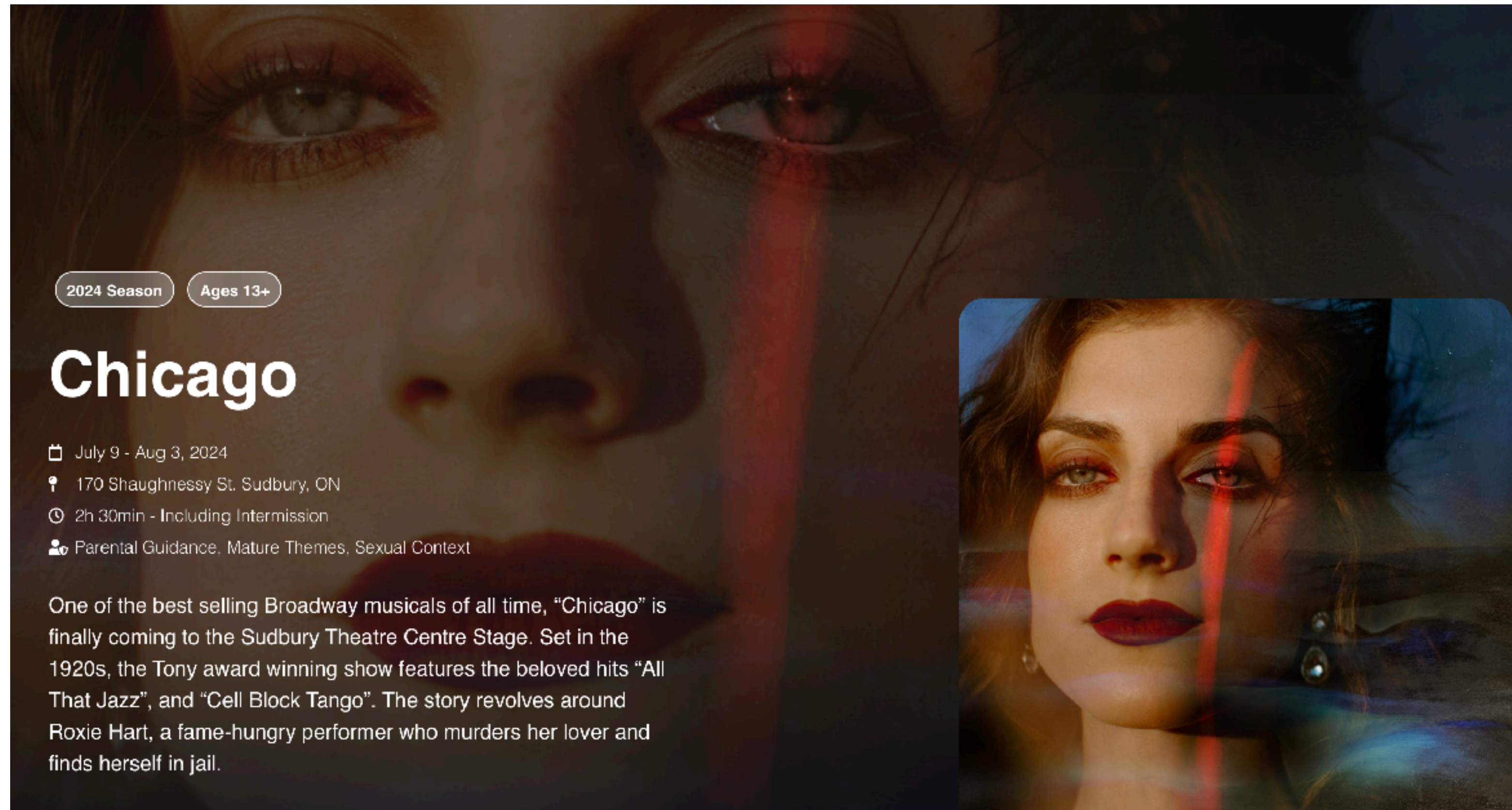


mcdonaldinstitute.ca/hqpac

Slack



Friday Excursion



2024 Season Ages 13+

Chicago

📅 July 9 - Aug 3, 2024
📍 170 Shaughnessy St. Sudbury, ON
🕒 2h 30min - Including Intermission
👤 Parental Guidance, Mature Themes, Sexual Context

One of the best selling Broadway musicals of all time, "Chicago" is finally coming to the Sudbury Theatre Centre Stage. Set in the 1920s, the Tony award winning show features the beloved hits "All That Jazz", and "Cell Block Tango". The story revolves around Roxie Hart, a fame-hungry performer who murders her lover and finds herself in jail.

- Bus leaves the University of Sudbury at 5:30
- Catered charcuterie & veggie boards available before the show
- Bus returns when the show is over

Saturday Excursion



The Murals

Discover all the murals that Up Here has created and curated in Sudbury since 2013.

Take in one of our official [Guided Mural Tours](#) or go on your own self-guided mural tour in downtown Sudbury by downloading the official Up Here app on the [App Store](#) or [Google Play](#).

- Guided mural tour of Downtown Sudbury
- Grocery trip

Monday "Tour", Keynote, & Banquet



Hiking in Laurentian Trails



If you encounter a black bear

Stop. Do not panic. Remain calm.

Generally, the noisier the bear is, the less dangerous it is, provided you do not approach. The noise is meant to “scare” you off and acts as a warning signal.

Do

- Slowly back away while keeping the bear in sight and wait for it to leave.
- Throw objects, wave your arms and make noise with a whistle, air horn or yelling if the bear does not leave.
- Prepare to use bear spray.
- Get inside a building or vehicle, if you are nearby, as a precaution.
- Drop any food you may be carrying and slowly move away.
- Leave a bear alone if it is in a tree. Leave the area. The bear will come down when it feels safe.
- Play dead **only if** you encounter a mother bear with cubs.

Do not

- Run, climb a tree or swim.
- Kneel down.
- Make direct eye contact.
- Approach the bear to get a better look.
- Attempt to feed a bear.
- Let your dog off its leash.
- Play dead **unless** you are attacked by a mother bear defending her cubs.



2024 Cohort



- Australian National University (ANU)
- Universidad Automata Nacional de Mexico
- University of British Columbia
- Carleton University
- University of Florida
- Rensselaer Polytechnic Institute
- University of Sussex
- University of Windsor
- TRIUMF, SFU
- McGill University
- University of Winnipeg / University of Manitoba
- LIP
- Institute of Frontier and Interdisciplinary Science, Shandong University
- University of Toronto
- Queens University
- Purdue University
- The University of Melbourne
- LPNHE, CNRS/IN2P3, Sorbonne Université
- University of Victoria
- Simon Fraser University
- SNOLAB
- University of Oxford

