SNOLAB

Innovation lives at SNOLAB

Annual Report 2024-2025

Ontario’s training ground for scientists, technologists, and tradespeople

Contents

Message from the Executive Director

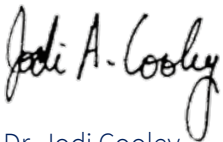
As I look back on 2024, I am deeply proud of the progress we have made together at SNOLAB. This year has been one of growth, collaboration, and renewed momentum across our scientific programs and community initiatives.

The SNOLAB Underground Science Institute hosted its second summer lectureship series for graduate students and postdoctoral researchers, continuing its tradition of providing exceptional scientific training and professional development. We also launched a new Emeritus and Affiliate Program, strengthening our ties to Canada's vibrant research community and sustaining the expertise that defines SNOLAB.

We were excited to secure funding for SEEDLING, a program designed to bring SNOLAB science into classrooms across the country. This initiative reflects our commitment to inspiring curiosity and supporting the next generation of scientists. Our Science Café was launched to bring people together through engaging, coffee-break-sized science presentations, while our focus on well-being has grown with the creation of dedicated wellness spaces both above and below ground.

At the heart of all we do is one essential strength: our people. From our dedicated facility staff to the diverse teams of collaborators who train and conduct research here, everyone at SNOLAB plays a vital role in our success. SNOLAB is not only a global leader in underground science—it is also a place where the next generation of scientists, technologists, and tradespeople are being trained right here in Ontario, with impact that extends across Canada and beyond.

As we look ahead, I am inspired by the creativity, resilience, and dedication of everyone who contributes to SNOLAB's mission. Together, we continue to push the boundaries of discovery, share the excitement of science, and build a future where curiosity and collaboration illuminate new understanding of our universe.



Dr. Jodi Cooley,
Executive Director | SNOLAB

Land Acknowledgement

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.

SNOLAB Commitment to EDI

At SNOLAB, we believe advancing equity, diversity, and inclusion strengthens the scientific community and the quality of our research output. We are committed to creating, supporting, and maintaining a learning, research, and work environment free from discriminatory and intimidating behaviour, and to work collaboratively with other stakeholders, when appropriate, to do the same.

SNOLAB recognizes challenges remain in achieving the full participation of equity-seeking groups (including, but not limited to, women, visible minorities, Indigenous persons, people with diverse gender identities, and people with disabilities) in STEM. SNOLAB is committed to increasing equity across our organization and within our experimental collaborations through our 2023-2029 Strategic Plan, our **2020-2023 EDI Action Plan**, and our internal committees and task forces.

Our Visionary Partners

Our five Canadian university joint venture members ensure that SNOLAB maintains an independent and effective Board of Directors. Vale provides invaluable support through access to the two-kilometre depth in its Creighton mine.

Our Funding Partners

SNOLAB is generously supported by our federal, provincial, and local partners. Their essential investments in our facilities, research capabilities, infrastructure, and operations support leading edge discovery, research, and innovation for the benefit of all Canadians.

About SNOLAB

Located two kilometres underground, SNOLAB is the world's cleanest facility for deep underground science.

We have established Canada as a global leader in underground science, infrastructure, and expertise. Our unique low-radiation environment enables world-class research in astroparticle physics, where we explore fundamental questions about the universe, including the nature of neutrinos and dark matter. Building on this foundation, SNOLAB has also attracted innovative programs in quantum technology, life sciences, and nuclear security.

SNOLAB offers expert scientific, technical, and administrative support for our users and collaborators.

SNOLAB is the only underground facility where all full-time staff are dedicated to performing and supporting research, from design to decommissioning. Our partner, Vale, maintains and provides access to the mine.

This focus on expertise makes us an important training ground in Canada for highly qualified personnel (HQP) in underground science and technologies. As of 2025, SNOLAB has more than 1,200 users from 166 institutions in 26 countries.

By hosting and enabling the world's most advanced and sensitive underground experiments, SNOLAB:

- Drives breakthrough discoveries at the frontiers of underground science;
- Bolsters Canada's scientific reputation;
- Attracts new talent to Canada and Northern Ontario;
- Trains more highly skilled people;
- Provides opportunities for Canadian researchers to lead international projects; and
- Generates economic benefits for Canadians.

SNOLAB is at a pivotal point in its evolution.

International demand for access to its unique environment and capabilities has grown substantially while SNOLAB has matured to meet it. The recent explosion in interest and investment around the world has intensified global competition in underground science. At the same time, it has created enormous opportunities for international collaboration. To keep Canada and Canadians at the forefront of global science, SNOLAB is poised to capitalize on these opportunities.

SNOLAB's guiding documents

Strategic Plan and Implementation Plan

SNOLAB's Strategic Plan 2023-2029: Reaching New Heights, Deep Underground is owned by the SNOLAB Institute Board and, coupled with the Implementation Plan, serves as benchmarking documents for oversight, to assess the effectiveness and impact of the facility and of the management team. The entire SNOLAB community drives the strategic direction, and, as such, this document provides a vehicle for continued engagement and alignment with the community SNOLAB serves.

Three core pillars underpin our Strategic Plan.

For each, we have identified a goal along with strategies and expected outcomes:

Excellent Science

GOAL: Drive breakthrough discoveries at the frontiers of underground science.

Cutting-edge Infrastructure

GOAL: Continuously improve our research infrastructure to remain state of the art.

Skilled People

GOAL: Foster and develop diverse talent in an inclusive environment.

SNOLAB and the World

In the fall of 2024, SNOLAB Executive Director, Dr. Jodi Cooley represented SNOLAB and Canada at the G7 Science & Technology 2024 Conference in Sardinia. The event was hosted by the Italian Ministry of Universities and Research, along with the Italian National Institute for Nuclear Physics (INFN).

The conference examined the critical role large research infrastructure plays in the advancement of scientific knowledge, as well as their economic, social and geopolitical implications, specifically for G7 members. A central objective was to enhance collaboration between large research infrastructures in G7 countries by fostering an exchange of ideas and best practices among policymakers, researchers, and socio-economic stakeholders.

The discussions were centred on a report commissioned by the Italian Presidency to The European House – Ambrosetti titled “G7 Large Research Infrastructures: Synergies and Impact on Science and Society.”

Dr. Art McDonald was invited to give a talk on his experience conducting research in Sardina and participated in a round table discussion entitled “Global Network of Research Infrastructures for the Multimessenger Astronomy Paving the New Path in the Universe Exploration.”

SNOLAB aims to cement Canada's leadership in deep underground science and establish SNOLAB and Canadian facilities and researchers as global leaders. This G7 conference was a very high-level and high-profile opportunity to make this case and develop these links.

In June 2024, the prime ministers of Canada and Italy announced a Roadmap for Enhanced Cooperation, an action plan to work together on shared priorities, including climate change, energy security, immigration, and research and innovation. This latter priority includes a specific mention of SNOLAB within the Roadmap. SNOLAB and its peer lab in Italy, Laboratori Nazionali del Gran Sasso (LNGS), were recognized for their history of collaboration that will continue long-term through their shared research interests..

Canada and Italy have developed a strong relationship in the field of astrophysics, one both countries hope will serve as an example for other fields of study going forward, such as quantum technology and artificial intelligence.

SNOLAB in Ottawa

A delegation from SNOLAB attended the annual Canadian Science Policy Centre (CSPC) Conference in Ottawa, where SNOLAB ED Dr. Jodi Cooley spoke in a plenary session on Canadian Research Facilities at the Forefront of Scientific Breakthroughs: The Long-Term Benefits of Supporting Fundamental Research.

The conference was especially important for SNOLAB as the Government of Canada is making changes to the way it structures and funds Major Research Facilities (MRFs) in Canada.

The federal government has tasked the Canada Foundation for Innovation (CFI) to create an implementation plan for this new decision-making and funding framework to address the unique challenges of Canada's MRFs. This new system will help ensure that labs like SNOLAB have the funding they need for their equipment, operations, and long-term goals. Along with SNOLAB, five other national facilities are part of this transition: the CCGS Amundsen research icebreaker, Canadian Light Source, Ocean Networks Canada, Ocean Tracking Network, and the Vaccine and Infectious Disease Organization.

As part of this process, SNOLAB has developed a 15-year plan to help shape the future of the lab and ensure it can continue to contribute to world-class science. Atthe same time, the federal government is creating a national science and innovation strategy.

This strategy will help Canada set research priorities and make the most of its investments in science and innovation.

It’s an exciting time for research in Canada!

SNOLAB leader appointed to expert panel on Canada's research infrastructure

Dr. Jodi Cooley, executive director of Sudbury's SNOLAB, has been invited to join an expert national panel tasked with improving Canada's research infrastructure.

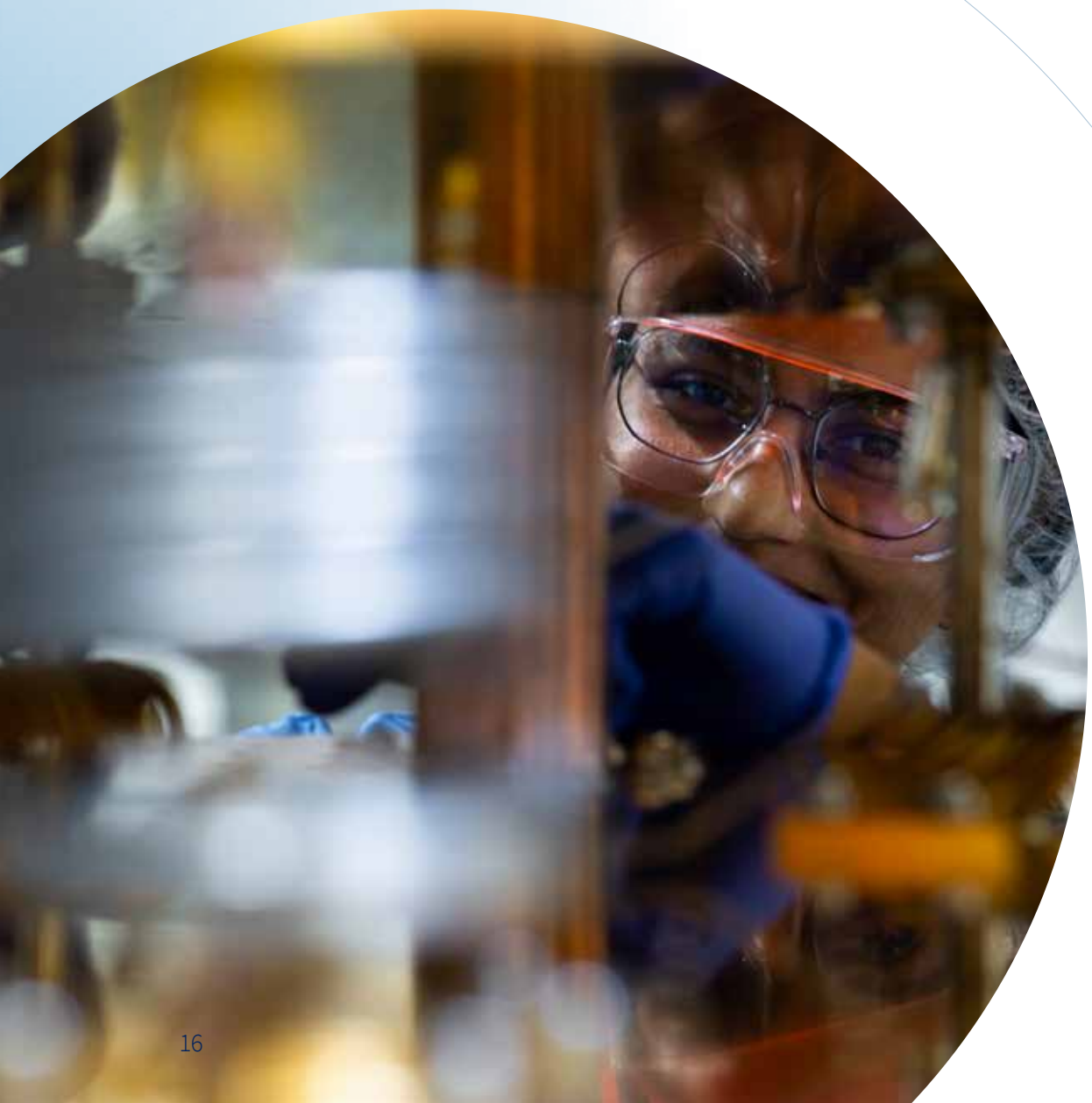
This panel, set up by the Council of Canadian Academies (CCA), includes researchers and executives from national-scale scientific facilities to its digital platforms and collaborative networks from across Canada.

Convened at the request of Innovation, Science, and Economic Development Canada, the CCA has formed this expert panel to support the federal government in optimizing Canada's research infrastructure. The expert panel has been tasked with answering the question: How can Canada optimize its national research infrastructure, including large-scale facilities, digital platforms, and collaborative networks, to meet current and future needs?

Dr. Cooley joined a multidisciplinary panel of experts in research infrastructure economic development, science and innovation policy experienced in intergovernmental and interdisciplinary collaboration.

"This committee will help shape policies that will influence not only the research sector in Canada, but also the global scientific community,"
— said Dr. Jodi Cooley.

Research Updates



About CUTE

CUTE (Cryogenic Underground Test facility) was built to test components of other experiments. It is well shielded from background radiation, can operate at very low temperatures, and is designed to prevent microvibrations that could interfere with testing.

What's New

CUTE has been selected to host a new collaboration between researchers from the Institute for Quantum Computing (IQC) at the University of Waterloo, Chalmers University of Technology in Sweden, Laurentian University, and SNOLAB to investigate the impact of radiation and cosmic rays on quantum technologies. The experiment will examine the known link between cosmic rays and quantum bits, or qubits, which hold information at the quantum level.

Qubits on a microchip are like lilypads on a pond. A cosmic ray or radioactive decay that strikes the chip creates a spreading phenomenon, like ripples in a pond from a thrown stone that strike all the lilypads. This disrupts many or all qubits. This has been seen happening at a rate of about once every ten seconds, setting an upper limit on quantum calculation time.

CUTE also now has a new calibration system to help to better characterize the behaviour of technologies tested in the facility. This system resulted from a multi-year planning, design, and construction effort that included many highly qualified personnel who gained valuable experience in the process.


CUTE

Did you know:

- CUTE was built to test iZIP and HV detectors for SuperCDMS, which was successfully completed after a five-month test run.
- CUTE's experimental chamber holds up to 20 kg of payload and can achieve temperatures of ~12 mK, or roughly the temperature of outer space.
- CUTE is owned and operated by SNOLAB to test components of other experiments.

DAMIC

About DAMIC

DAMIC uses CCDs (charged coupled devices) to look for dark matter interactions. CCDs are the same technology found in the cameras in every cell phone and are a kind of modern "film" on which images can be made. The silicon CCDs are electrical circuits made up of many capacitors, which are extremely sensitive to small changes in energy. Normally, when used as a camera, light will deposit this charge. However, in a dark matter experiment the CCD is protected from light deep inside a complex shield. Only certain particles, including dark matter, could make it in as deep as the CCDs. When a dark matter particle interacts, that energy change can be measured, creating a signal in the data. CCD experiments are literally taking pictures of the dark.

What's New

The DAMIC detector has remained offline since November 2024, while the collaboration prepared a proposal to implement nuclear/electronic recoil discrimination in the detector following its discovery on how to do this with CCDs. Until the current run ended in November 2024, the detector was operating reliably and with high duty cycle.

Did you know:

- Interactions within the CCDs are recorded in pixels along the x and y axes, making it possible to map an interaction and determine what particle caused it.
- DAMIC is housed in a copper box which is kept in a vacuum at a temperature of 130 Kelvin, or about -140 C.
- DAMIC consists of 34 researchers from 11 institutions across 6 countries.

About DEAP-3600

DEAP-3600 uses a vessel of liquid argon to look for dark matter. When argon atoms are excited by particle interactions, they produce ultraviolet light with a specific pattern in time. This light is then detected by sensors surrounding the vessel and analyzed to determine what caused it.

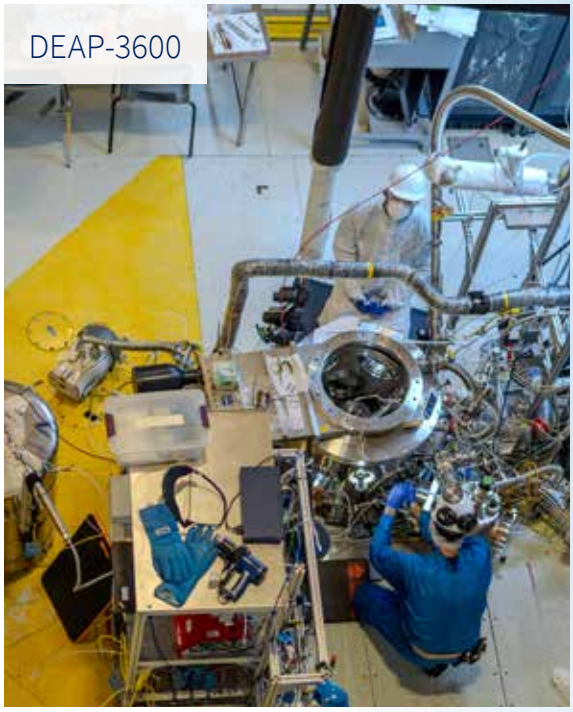
What's New

The DEAP collaboration has recently completed an ambitious set of upgrades, designed to improve their ability to detect rare signals from dark matter interactions. The detector is now beginning a new era of operations with the goal of collecting an even more sensitive data sample.

The collaboration published new results from a previous data campaign and measured a much longer half-life for argon-39 than previously accepted. This information is important especially for geological dating methods. The collaboration also developed a new model to understand how alpha particles interact in liquid argon.

Additionally, the experiment expanded its dark matter search from keV to MeV energy scales and found early evidence of solar neutrino absorption in argon. Efforts have gone into identifying sources of backgrounds and addressing them through system upgrades. The team is focused on the new low-background data-taking, aiming to achieve a zero-background dataset and provide guidance for future detectors like DS20k and ARGO.

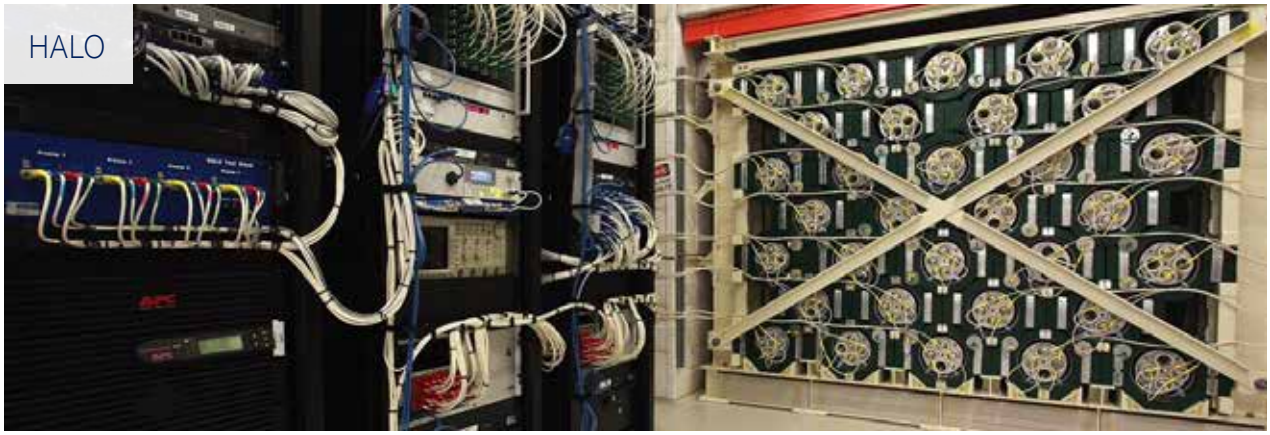
DEAP-3600



Did you know:

- DEAP-3600 gets its name because it uses about 3,600 kg of liquid argon as its target. The argon is kept liquid through high pressure and low temperature. If it became gaseous, it would take up almost 600 times as much volume.
- The spherical acrylic vessel had to be brought into the lab in orange-slice shaped pieces because it was too big to fit in the mine cage in one piece.
- DEAP consists of more than 79 academic HQP in Canada (grad students and post-docs) trained in last 10 years, and many technical and engineering personnel.

HALO



About HALO

The HALO (Helium And Lead Observatory) detector is in its 13th year of continuous operations. HALO uses lead blocks and helium to detect neutrinos. When a neutrino hits lead, it creates neutrons. These neutrons are then recorded by the helium neutron detectors in HALO, creating a signal in the data.

What's New

HALO continues to maintain greater than 99% readiness for a supernova, meaning that HALO is taking data for at least 361 days a year . . . and often, it's closer to 365. The experiment's readiness for a real supernova was tested in 2025 when another experiment saw hints of the precursor signature of a stellar explosion. HALO was one of a few neutrino early warning detectors that then maintained continuous readiness for the next 24 hours.

The HALO collaboration has strengthened its governance and is refocusing on the analysis of its 13-year data set. The collaboration is also working to improve its computing hardware and considering some modest experimental upgrades that might help improve their understanding of the data. HALO is able to provide information on other effects beyond supernova explosions, including cosmic ray nuclear processes underground at SNOLAB.

Did you know:

- HALO is part of SNEWS (the SuperNova Early-Warning System), a group of seven detectors around the world that alert astronomers to supernovae so they can view them with telescopes.
- HALO is an upcycled detector built from components developed by previous experiments. This includes 128 low-background helium-3 neutron detectors from the SNO experiment and 79 tonnes of lead repurposed from a decommissioned cosmic-ray experiment in Chalk River, Ontario.
- The collaboration consists of 20 people. The experiment is approachable enough that they recently attracted a secondary school student to collaborate on data analysis.

About the Health Canada/ SNOLAB Collaboration

SNOLAB partners with Health Canada in the detection of very small levels of radioisotopes that can provide crucial information about nuclear events external to SNOLAB, thereby aiding national and international security interests. This is part of the Comprehensive Nuclear Test Ban Treaty (CTBT) adopted by the United Nations General Assembly with basic obligations banning detonation of nuclear explosions.

SNOLAB and Health Canada have also expanded their research collaboration with the addition of a radiological monitoring station located on surface at SNOLAB. The new station is part of Health Canada's Canadian Radiological Monitoring Network (CRMN).

What's New

Health Canada launched the National Radon Program to assess the reliability of various radon monitors, aiming to reduce the health risks linked to radon exposure. SNOLAB contributed to the testing of some of these monitors in an underground environment with known radon levels. Health Canada provided SNOLAB with 13 different types of radon monitors, with three units of each type, for testing. Initially, the monitors were set up on the surface to assess their performance before they were moved underground. Along with the commercially available radon monitors, this study also included three professional-grade radon monitors. Out of the 36 radon monitors successfully tested at SNOLAB, 24 were within the acceptable 25% accuracy range relative to the professional-grade AlphaGUARD PQ-2000.

HEALTH CANADA

Did you know:

Health Canada's Radiation Protection Bureau partners with SNOLAB to provide services in low background counting using several instruments, including:

- gamma counting using ultra-low background germanium detectors,
- alpha counting using an XIA alpha counter, passive radon emanation,
- radon and thoron measurements with electrostatic counters,
- alpha-beta counters,
- X-ray Fluorescence (XRF) spectrometry and general gamma spectroscopy.

NEWS-G

About NEWS-G

NEWS-G (New Experiments With Spheres – Gas) uses a spherical copper vessel filled with a noble gas to search for dark matter. When a particle enters the sphere it ionizes some of the gas, generating electrons. A sensor (known as an achino sensor) in the middle of the sphere held at a high voltage attracts the electrons, creating a charge that can be measured.

What's New

The collaboration ran multiple detector and gas assessment projects throughout the year. This included testing the central sensor at high voltage in a noble gas environment and testing the circulation of gas with application of filters to remove radon, a potentially serious confounding gas that can hide dark matter signals. The collaboration developed future plans to test other gases in the detector, such as helium and methane, which provide a low-mass target that enhances sensitivity to very low-mass dark matter candidates.

Did you know:

- One of the pieces of lead shielding for NEWS-G is the heaviest object ever shipped underground to SNOLAB. Along with the specially reinforced rail car it travelled on, it weighed about 75,000 lbs.
- A prototype of the detector operated at Modane in France and was originally intended to study low-flux neutrons. That detector had such excellent properties for ultra-sensitive measurements that the collaboration shifted their focus to dark matter.
- NEWS-G has 30 collaborators from 10 institutions in four countries.

PICO-40L

About PICO-40L

PICO uses a bubble chamber to look for dark matter. The fluid in the bubble chamber is superheated, so when a particle interacts, it boils and creates a bubble. This bubble is captured on camera and microphone. Studying these details of the bubble can tell scientists about the particle that caused it.

What's New

The technology decisions in the design of PICO-40L were used as the starting point for the much larger PICO-500 experiment under construction. This makes PICO-40L an excellent place not only to collect data but to test choices and ideas before using them in PICO-500.

The focus in PICO-40L has been on measuring radon atom populations and understanding the kinds of bubbles radon decays can cause. There is always some radon produced by contaminants inside an experiment. PICO-40L has demonstrated excellent thermal and mechanical control and high-quality data from cameras and microphones, allowing for radon to be mapped in the target superheated liquid. In addition, work is ongoing to study events that would be more like dark matter so that these can be better characterized and controlled when looking for real dark matter interactions. The collaboration has been focused on developing publications about the PICO-40L experience while also constructing PICO-500.

Did you know:

- The fluorine-rich target fluid is superheated, but since it's a refrigerant, the temperature is actually slightly cooler than room temperature.
- PICO-40L has both cameras and audio sensors, so it is possible to both "see" and "hear" an event.
- PICO-40L has been a valuable training ground for highly qualified personnel, and two Master's and one PhD degrees were earned in 2024/25 on this experiment.

About PICO-500

PICO-500 is a scaled-up bubble chamber currently under construction and will be installed in SNOLAB's Cube Hall. PICO-500 will have a target mass of 250 kg, pushing the limit of our current ability to build and operate low background bubble chambers. Collaborators expect a factor of 10 increase in sensitivity in unique areas of the dark matter search landscape.

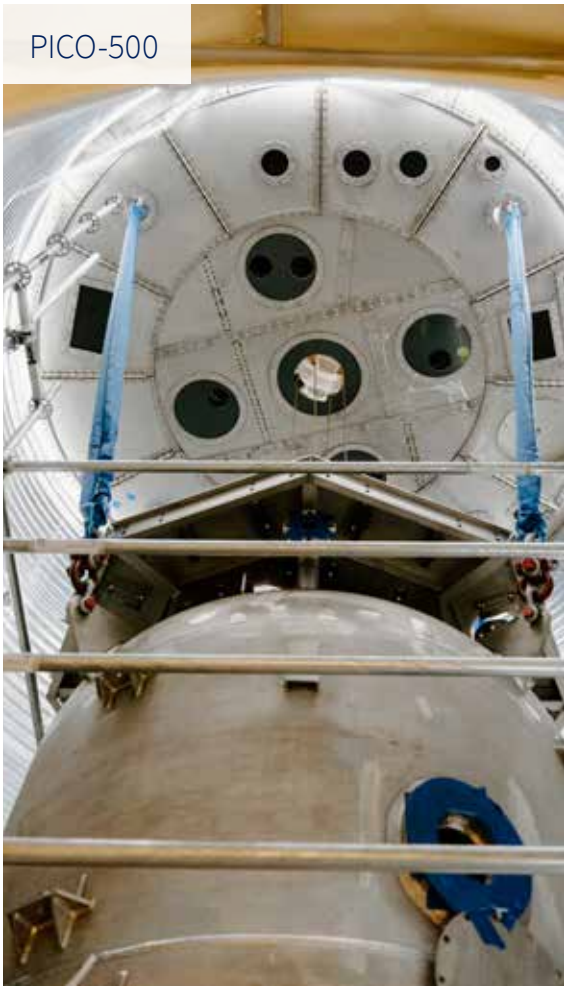
What's New

An enormous amount of progress was made in 2024/25 with major construction activities beginning. SNOLAB delivered a new lid to cover the water tank that will eventually shield the PICO-500 detector. PICO-500 consists of a massive steel pressure vessel that contains the primary detector inside. The pressure vessel is too large to bring underground in one piece, so it came down in multiple pieces and was welded together inside the clean laboratory in a way that protected other experiments from the welding process, which makes many particulates. The pressure vessel has been tested for certification and is now being outfitted for the installation of the detector system.

The inner detector components have been cleaned and a test assembly completed inside a clean tent that provides a more controlled environment even than the clean laboratory itself. Radon exposure was carefully minimized, monitored and tracked. All quality control tests of the cleaning process were met or exceeded.

In the coming year, collaborators expect that the pressure vessel will be certified, the work inside the vessel will be complete and the inner detector will be assembled and inserted into the pressure vessel. That leaves the support systems to be integrated underground (pressure control, temperature control, freon fill system and the PLC system to control these units). Once this is complete, the liquids held by the pressure vessel and the detector can then be loaded in preparation for operations.

PICO-500



Did you know:

- PICO is not an acronym. It is an amalgam of two precursor experiments: PICASSSO and COUPP.
- The fluid that will be used in PICO-500 is the same refrigerant formerly used in household fridges.
- PICO has 68 collaborators from 17 institutions in five countries.

About REPAIR

REPAIR (Researching the Effects of the Presence and Absence of Ionizing Radiation) studies the effects of very low radiation levels – lower even than normal everyday (“background”) doses - on living organisms. It looks for cancer risk and DNA changes in human cells, and whole-organism development and growth in lake whitefish embryos, desiccated yeast, and human skin cells.

What’s New

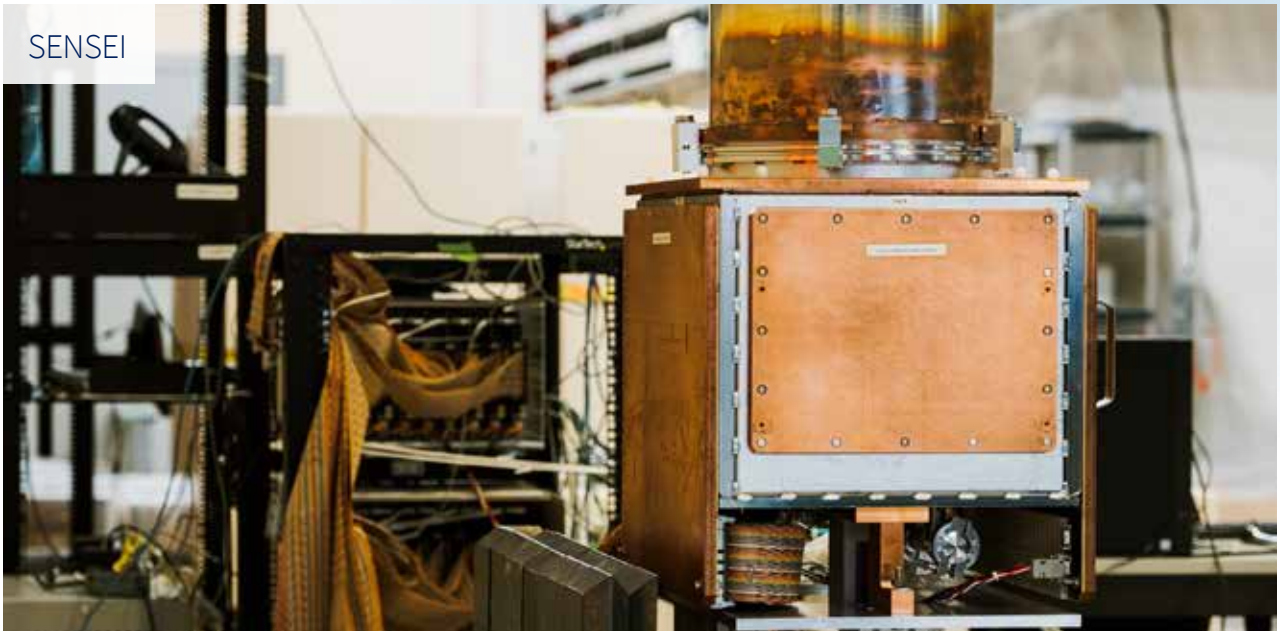
In 2024/25, the REPAIR collaboration conducted yeast growth experiments in solid and liquid media, finding that colonies grown in the sub-background radiation environment were smaller, indicating reduced growth rates. Additional replicates and follow-up transcriptomic and metabolomic analyses are underway, with the finalized results expected by late 2025. Periods of downtime were used productively to upgrade the glovebox for the specialized tissue culture incubator (STCI). Two new feedthroughs were added: one used for internal power and another reserved for future applications. REPAIR’s project timeline remains healthy and will benefit from the improvements made to the experimental setup.

In addition, the REPAIR collaboration is now formally working with other underground biology researchers at laboratories across the globe to conduct controlled, harmonized, and standardized experiments at multiple sites. This is part of a global, inter-laboratory effort to assess the reproducibility of results in this experimental space. Reliable science depends on the ability for independent researchers to reproduce results and this is a major step forward in this effort, with significant leadership and partnership from the REPAIR collaboration and SNOLAB.

REPAIR

Did you know:

- REPAIR is testing the hypothesis that because all life on Earth evolved in the presence of natural background radiation, the absence of it could be detrimental to biological systems.
- REPAIR is one of the deepest biological life sciences research projects in the world.
- Over the past year, two new, and one returning student have joined the REPAIR project.


SENSEI

About SENSEI

SENSEI (Sub-Electron Noise Skipper Experimental Instrument) is a direct detection dark matter search experiment that uses ultra-low noise CCD sensors capable of detecting single electrons that recoil when struck by dark matter. Dislocated electrons leave energy deposits in the very sensitive instrument. The CCDs have millions of pixels, and SENSEI is able to count every electron within a pixel, leading to incredibly precise measurements with no background noise.

What's New

The SENSEI experiment has produced world-leading results in low mass dark matter searches. Last year, SENSEI took science data for approximately five months and the collaboration is currently analyzing this data. They are beginning a new science run that is expected to last up to one year. Once this run is complete, the SENSEI infrastructure will be leveraged for testing new sensor technologies at low background.

Did you know:

- The latest generation of CCDs are so sensitive that scientists can now precisely count each individual electron in each pixel of a large CCD consisting of millions of pixels, whether the pixel contains only zero or one electron, or if it contains more than 1,000 electrons.
- Members of the SENSEI collaboration were awarded the 2021 New Horizons in Physics Breakthrough Prize.
- SENSEI has 33 members from nine institutions in five countries. One PhD student from the University Of Buenos Aires (UBA) has graduated with a thesis based exclusively on SENSEI.

SNO+

About SNO+

SNO+ uses a liquid scintillator to detect neutrinos. When a neutrino hits the detector it creates charged particles. When these particles hit the scintillator it gives off light which is detected by thousands of sensors surrounding the vessel. Tellurium will also be added to the scintillator in the future with the goal of detecting neutrinoless double beta decay.

What's New

SNO+ continues performing physics analyses in its pure scintillator phase. Recently accepted for publication is the first observation of the charged-current reaction of boron-8 solar neutrinos on carbon-13 in organic scintillator. The two-part signature of this reaction has a 14 minute delay, making the measurement very challenging for most experiments. SNOLAB's depth and SNO+'s ultra-low backgrounds make this measurement possible for the first time. Work is now focused on the tellurium systems to prepare for the third phase of the SNO+ experiment.

Did you know:

- The liquid scintillator in SNO+ is lighter than regular water, while the heavy water in SNO was heavier. This means the vessel now has ropes holding it down instead of lifting it up.
- SNO+ researchers paddled around inside the vessel in small inflatable dinghies to inspect the cavern walls.
- The SNO+ collaboration consists of 97 researchers from 18 institutions in seven countries.

SuperCDMS

Did you know:

- SuperCDMS is designed to look for “light dark matter". In this case, light refers to its mass and dark refers to it being impossible to see.
- Each of the germanium and silicon crystals (10 cm across) has 1,000 sensors on each side to detect energy from interactions.
- The international SuperCDMS Collaboration consists of nearly 150 members from 27 institutions in six countries.

About SuperCDMS

SuperCDMS uses silicon and germanium crystals to detect dark matter. When a dark matter particle hits the crystals, it deposits a small amount of energy in them, which can be measured. The crystals are arranged in towers and connected to electronics that monitor the data, looking for an interaction.

What’s New

The collaboration made incredible progress in the construction of SuperCDMS and the project is on target to begin operations in late 2025 or early 2026. The crown jewels of the experiment – the towers of crystal detectors – were all brought underground and one (a so-called High-Voltage, or HV, tower) was was successfully installed and operated in CUTE. The amplification of subtle interactions using the voltage in these detectors provides excellent sensitivity to low-mass dark matter candidates that strike the crystal. The operation of this technology demonstrated the possibility of performing low- and high- energy calibration of the detectors.
The collaboration achieved an incredible energy resolution (0.573 ± 0.009 eV), an energy that is at the level of what is required to move as single electron around inside an atom. Valuable data was collected, and data analysis is in progress.

SuperCDMS collaboration meeting hosted at SNOLAB

Facility Capabilities

Low Background Counting Facility

The Low Background Counting Facility at SNOLAB provides material assay, screening, and environment monitoring capabilities. The facility instrumentation includes High Purity Germanium (HPGe) detectors.

Experiment Areas

SNOLAB offers 5,000 square metres of underground Class 2000 clean space. The SNO cavern, Cryopit, and Cube Hall are experimental caverns for large experiments, and the Ladder Labs are drift areas for small and medium-sized experiments.

Facility Capabilities

Cryogenic Underground Test Facility

Millikelvin, low-background facility for pure and applied research. 10 mK base temperature with 1-week experiment turnaround time. Currently used for quantum device characterization and low mass dark matter searches.

Life Science & Chemistry Lab

Located in the underground clean room, this lab is specialized for analytical chemistry and life science experiments. The facility has lab bench space, a fume hood, a glove box, an ultra pure water system, an analytical balance, chemical storage, and ultrasonically cleaned equipment.

Machine Shop

An underground shop was set up so that experiment components and equipment can be worked on without being exposed to surface levels of background radiation. Currently, the shop contains a lathe, milling machine, drill press, cut off saws, and a band saw.

Scientific Support

SNOLAB's scientific support staff provide a wide range of physics support, chemical and radiological assays, chemical process development, surface laboratory operations, and a chemical safety program.

Surface clean lab

The surface clean lab provides space for prototyping, compatibility testing, and staging and assembly of experiments before they are shipped underground.

Underground Monitoring

The underground laboratory has instrumentation to continuously monitor its radon levels. In addition, the laboratory employs instrumentation for seismic monitoring and a radio frequency spectrum analyzer to survey and catalog areas for electrical noise.

SNOLAB by the Numbers

Operations & Facilities Management

500

Rail cars of supplies and materials moved last year from surface to the underground lab.

1,500+

Air filters changed to supply the underground lab with fresh, cool air.

361 **Visitors on tours** of the underground facility.

Workplace Safety & Health

5,603

Hours of safety training provided to staff and users, an average more than 100 hours per week.

1,566 Consecutive lost time **injury-free days** at SNOLAB this year.

Employment & Human Resources

37

Full-time employment opportunities filled at SNOLAB.

Research & Scientific Community

164

Experiment users who came to the SNOLAB site, up from 158 the year before. SNOLAB continues to serve more than 1,000 remote users.

654

Scientific publications
SNOLAB has contributed to or been referenced in. More than 100 of these have come in 2024 and 2025.

44

Student work terms filled at SNOLAB last year over three cohorts.

Education & Public Outreach

4,644

People reached through Education and Outreach programming.

40

Regional, national, and international media engagements featuring SNOLAB, SNOLAB science, and SNOLAB people.

198

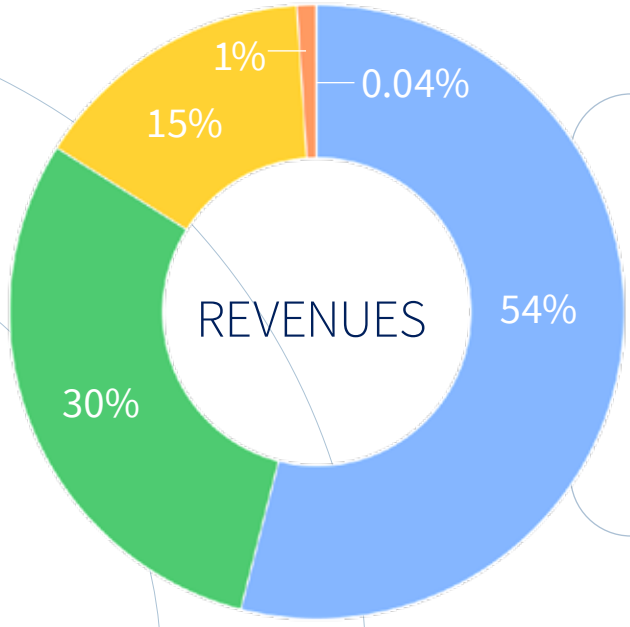
Teachers who participated in SNOLAB workshops.

438

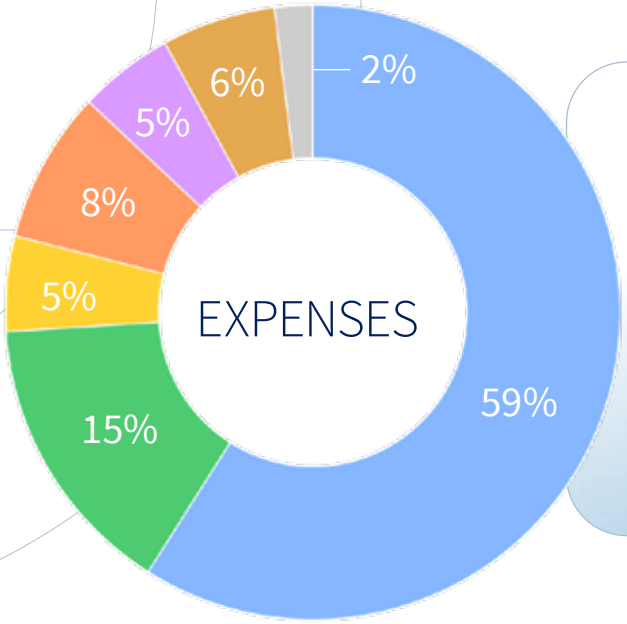
K-12 students reached through class visits.

Financial Report

For the complete audited financial statement of SNOLAB as of March 31, 2025, visit **SNOLAB.ca/about**



Grant Funding - Federal	$12,586,723
Grant Funding - Provincial	$7,000,000
Amortization of deferred capital contributions	$3,442,830
McDonald Institute funding	$306,686
Other	$10,000
TOTAL	**$23,346,239**



Salaries and benefits	$13,837,239
Amortization of capital assets	$3,442,830
External Contracts (Other)	$1,848,512
Supplies	$1,429,623
Equipment	$1,227,677
External Contracts (Vale)	$1,046,196
Travel	$516,883
TOTAL	**$23,348,960**

SNOLAB's International User Community

1200+
Annual academic users and collaborators

24%
of users from Canadian institutions

166
Institutions

26
Countries

Staff Profiles

Nasim Fatemighomi

SNOLAB Staff Scientist

I completed my undergraduate degree in physics in Iran before moving to the University of Manchester, where I earned a master's degree in collider physics, working on the DØ (DZero) experiment at Fermilab. During my master studies, I developed a strong interest in the search for neutrinoless double beta decay, which motivated me to transition into underground physics. I pursued my PhD at Manchester with the NEMO-3 experiment, located at the Modane Underground Laboratory.

In 2009, I was offered a postdoctoral position with the SNO+ experiment at Queen's University, which brought me to Canada and SNOLAB.

As an early SNO+ collaborator, I travelled frequently to site and contributed to the initial stages of detector construction. I later joined the DEAP-3600 xperiment as a UK collaborator working with Royal Holloway, University of London, spending much of my time at SNOLAB on detector construction and commissioning. In 2017, I briefly worked with TRIUMF on DEAP-3600 before moving into my current position at SNOLAB.

Since 2018, I have been based at SNOLAB as a collaborator on the SNO+, DEAP-3600, and nEXO experiments.

For SNO+, my work has focused on radon background mitigation, a crucial challenge for neutrinoless double beta decay searches. With DEAP-3600, I spent about a year contributing to detector upgrades. For nEXO, I designed a conceptual automated system for radon measurements. In addition, I collaborate with SNOLAB's low-background group, helping to develop advanced low-background radon systems.

My work at SNOLAB varies from day to day. On surface, I spend time in the clean lab on R&D and maintenance of radon systems, or working on data analysis and documentation in my office. Underground, I operate radon assay systems capable of detecting only a handful of radon atoms from experiments. I also devote significant time to mentoring students at SNOLAB.

I highly recommend SNOLAB as a workplace. It is a truly unique facility, located 2 km underground, where people from diverse scientific and technical backgrounds come together. The collaborative environment offers continuous opportunities to learn from colleagues with a wide range of expertise.

Reg Michaud

Industrial Technologist

I started my employment at Sudbury Neutrino Observatory in January 1994. Thirty-one years ago! I had just completed an electronics and instrumentation program at Cambrian College in Sudbury. SNO provided an opportunity to expand my in-class training with real world experiences.

The first task I was given was building the photomultiplier tube (PMT) panels that surround the SNO+ detector. I was then forwarded to a team that installed the first infrastructure monitoring system formally known as CMA, Control Monitoring and Alarms. This system was monitored by air quality parameters and controlled air handlers.

It was also used to monitor several instruments and mechanical properties of the now SNO+ detector. Items included XY position of the SNO+ deck steel structure for movement, the XYZ position of the SNO+ acrylic vessel, and the voltage and current statuses of the several power supplies in the magnetic compensation coils. Having Clarence Virtue lead this was a valuable moment of learning.

The most significant item I have been involved with has been the construction of the SNO+ acrylic vessel and building and operating the automation system of the heat tape curing system. Being a part of this group led by Bob Brewer during this time was a formative experience.

SNOLAB is a work of art that changes and challenges as times propel forward. The tasks often provide opportunities to build your skills and knowledge, encouraging you to attain further accreditations and schooling as your path progresses. The possibilities are yours to chase and achieve.

The people you encounter at SNOLAB are welcoming and impart skills to help you during your time here. An atmosphere that will develop colleagues and friendships.

A technical career path in the electrical field at SNOLAB will expose you to common electrical equipment found in the industrial workplace. You will certainly encounter many one-of-a-kind builds that will keep you coming back! If this appeals to you, then SNOLAB is for you!

Cedrik Lewis

Engineer-in-training on DEAP-3600

My journey to SNOLAB began with a passion for engineering and science that has taken me across countries and industries. I earned my bachelor's degree in mechanical engineering in India before moving to Canada, where I registered as an Engineer-in-Training (EIT). Once here, I completed a postgraduate diploma in Mining Engineering Technology and spent several years working at mines across Canada. Those experiences taught me not only technical skills but also the discipline and safety mindset needed for challenging underground environments.

In September 2023, I joined SNOLAB as a Junior Mechanical Technician (EIT) on the DEAP-3600 dark matter experiment. My role focuses on cryocoolers and pumps—keeping them running smoothly, writing procedures, and carrying out daily checks. The work may sound routine, but underground, no two days are ever the same.

Some days are steady, while others bring unexpected challenges that require troubleshooting and problem-solving on the spot.

A typical day starts with going underground, reviewing system performance, and checking that the cryocoolers and pumps are operating as expected. I pay close attention to the details and document everything carefully, because even small changes can have a big impact on the experiment. It's demanding work, but that's what makes it so rewarding.

What makes SNOLAB special to me is not only science but the people. I work alongside an incredible team that is always willing to share knowledge and supportone another. There's also real emphasis on training and growth, which has helped me build confidence and expand my skills. For anyone looking to combine engineering with meaningful science, SNOLAB is a place where you can truly growand be part of something bigger.

SNOLAB Student Program

SNOLAB continues to be an important training ground for post-secondary students and other trainees. Since its inception, there has been a steady growth in the number of highly skilled people that gain formative experience at SNOLAB.

Although SNOLAB attracts the best students from across Canada and the world, the majority (72%) come from Ontario institutions. The net retention of SNOLAB alumni in Ontario when they enter the workforce is 64%.

The same recent study shows a strong majority of SNOLAB alumni (79%) are first employed in high tech and research-intensive economic sectors in Canada, including:

- **Academia (24%):** universities, colleges;
- **Scientific R&D (19%):** e.g., National Research Council, synchrotrons, drug R&D companies, Canadian Nuclear Laboratories;
- **Manufacturing (15%)**: e.g., automotive, aerospace, medical devices, IT devices, chemicals, food, consumer products;
- **Professional and technical services (11%):** e.g., technology start-ups, engineeringconsulting;
- **Software development (10%).**

Nearly 35% of SNOLAB alumni start out in leadership positions for their first job after completing their education. This number rises to 45% of SNOLAB alumni who earn postdocs and start out in a leadership position afterwards. Nearly 60% of all SNOLAB alumni with PhDs are in leadership positions today.

"I appreciate SNOLAB's environment of learning. In my experience, SNOLAB encourages its students to explore new skills, ideas and to take initiatives, and scientists are welcomingto questions and willing to devote time to help you understand a concept and/or give you feedback."

- Yusuf Ahmed, former student now at Institute for Quantum Computing (IQC)

SNOLAB Updates

SuSi

SNOLAB launched the successful SNOLAB Underground Science Institute (SuSi) during the summer of 2024. SuSi's inaugural summer featured a lectureship series that delivered training and professional development activities designed to enhance the SNOLAB research experience, allowing participants the time and freedom to pursue their work while having access to expertise and new ideas. The core of the program included three two-week blocks of lectures on The Dark Cosmos, Neutrino Science, and Quantum Technology.

SuSi concluded with a very successful public discussion on the future of quantum technology and artificial intelligence at Dynamic Earth. SuSi supports SNOLAB's strategic goals of driving breakthroughs in underground science and developing diverse talent by creating an intellectual hub that fosters collaboration and connections.

Special thanks to SuSi co-chairs Drs. Stephen Sekula and Christine Kraus, and guest lecturers Drs. Aaron Vincent, José Maneira, Nicola McConkey, and Seb Jones.

User Support Office

SNOLAB has added two new User Support Coordinators positions in Corporate Services division. The user support co-ordinators will help facilitate the daily operations of our user community, providing essential technical and administrative support, guidance, and coordination to both users and their supervisors.

One co-cordinator will support the research group and their activities, and the other will assist the user community during their time in Sudbury. Strengthening user support helps SNOLAB advance its vision as a leading international underground science lab, fostering collaboration, connections, and diverse talent in an inclusive environment. This investment in people and infrastructure reinforces SNOLAB's commitment to world-class facilities and services.

CASST

Each term, SNOLAB co-op students are invited to give a talk about their work experience at SNOLAB, with the largest cohort taking place in the summer as the **Canadian Astroparticle Summer Student Talk** Symposium.

The Student Talk Symposium is an opportunity for students to show off their hard work from the term and to practice giving presentations in a supportive, professional environment. Participants have a chance to earn a spot that will allow them to compete at the student talk competition at the Canadian Association of Physicists annual congress.

New wellness spaces above and below ground

SNOLAB has created spaces on surface and underground designed to support cultural needs, nursing parents, and promote wellness in the workplace. They were designed to provide SNOLAB employees and users with the location and supports to tend to their needs.

These spaces, one in our surface building and one in our underground lab space were named **INSPIRE** rooms: **Inhale, Nourish, Self-reflect, Pray, Invigorate, Relax, and Exhale**. Life and work bring many stressors, and the wellbeing of SNOLAB staff and users is critical to our success. The Strategic Plan inspires SNOLAB to nurture diverse talent in an inclusive environment, and these spaces are an invaluable investment in the wellbeing of our staff and users.

New Affiliate and Emerit Program

SNOLAB's Research Group is rolling out a new Affiliate and Emerit policy designed to increase SNOLAB's reach and profile in the science community. The purpose of this new program is to establish a formal professional affiliation between SNOLAB and individuals who do not work at SNOLAB, but who make substantial contributions to SNOLAB.

The Affiliate designation will be an opportunity for an individual who is not an employee of SNOLAB, but whose work provides value to SNOLAB and the SNOLAB scientific community, to formally affiliate with SNOLAB. Affiliates will contribute to SNOLAB's science program or operations and spend time working at SNOLAB. In return, they will be permitted to list SNOLAB as one of their professional affiliations.

Emerit status will be conferred to eligible individuals who have retired from full-employment status as a Research Scientist at SNOLAB. Emerit is a non-gendered title; scientists may also be referred to as "Emeritus" or "Emerita."

This new Affiliate and Emerit policy builds on the new SNOLAB Underground Science Institute (SuSi) by establishing new avenues for collaboration within our community at SNOLAB. This policy aims to enhance the relationships between SNOLAB and its partners, while aligning with SNOLAB's three strategic goals: driving breakthrough discoveries in underground science, continuously improving SNOLAB infrastructure, and developing a skilled and diverse workforce.

Science Café

The goal of the Science Cafe is to communicate a piece of SNOLAB science to all those working underground and on surface over coffee breaks, with time for questions and discussion. It's a chance for everyone at SNOLAB to learn about an exciting idea, a breakthrough, or a discovery made possible by the laboratory. Working at SNOLAB is more than just a job, and the café is the chance to learn about how our day-to-day work contributes to the success of SNOLAB science.

The Science Café talks are 10 minutes each followed by five minutes of questions and discussion. These talks are not intended to be detailed science lectures. They are meant to provide forum for SNOLAB staff to discuss the challenges and opportunities that we encounter daily.

Education & Outreach

Student experiments at SNOLAB

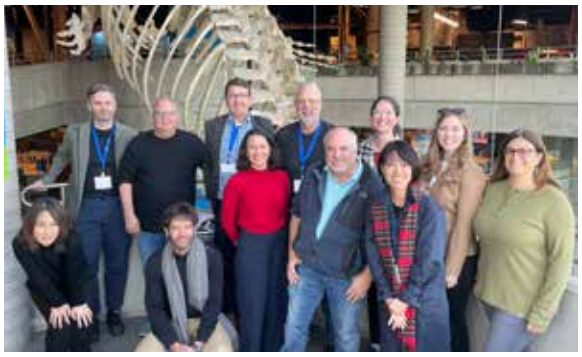
Funding was received through the NSERC PromoScience program for the development of student programming at SNOLAB, targeting students in grades 4-8 and their educators. Over the three years, this funding will support the development and launch of a pilot program that will bring students' questions into the underground lab, engaging students at a strategic age range to inspire interest in STEM.

The program, **SEEDLING (Science & Engineering Experiments at Depth: LearnING at SNOLAB),** is driven by curiosity and aims to increase Canadian students' exposure to the scientific process, regardless of their location, available resources, or prior science experience. Developing this program represents progress toward SNOLAB's strategic goal of expanding STEM programming in Northern Ontario and reaching equity-seeking groups. In addition to the support provided by the PromoScience grant, SNOLAB is contributing nearly $1 million in staffing support to ensure the program's success.

Connecting with Educators

SNOLAB hosted an interactive workshop in the SNOLAB surface facility for 25 guidance counsellors and educators. This day of learning focused not only on science but on the technical support roles that support the research underway at SNOLAB. The goal of this workshop was to highlight the diverse paths into skilled trades careers. Staff from a number of divisions participated in this workshop and the feedback was incredibly positive. SNOLAB publishes a quarterly newsletter for educators and has presented workshops for educators at the CAP Congress Teachers Day and attended the Ontario Association of Physics Teachers annual conference.

SNOLAB in the community



International meeting for science communicators

SNOLAB hosted the annual meeting of the Interactions Collaboration, a group of science communicators from the world's particle physics labs. This three-day meeting welcomed a dozen in-person delegates from international physics labs in addition to a number of virtual attendees to discuss current topics, engage in future planning, share best practices, and visit the underground facility. This was the second time that the meeting was held in Canada and provided an opportunity to showcase SNOLAB and to strengthen the network of physics communicators.

2024 solar eclipse activities

SNOLAB participated in the 2024 Ontario Eclipse Planning Committee that coordinated efforts and the sharing of resources with partner institutions leading up to the 2024 solar eclipse. SNOLAB hosted a planetarium show at Laurentian University's Doran Planetarium. On April 8th members of the SNOLAB team participated in the Community Eclipse Viewing Party at Science North with hands on demos and information about our facility.

Dark Matter Day

SNOLAB works with physics labs around the world to organize Dark Matter Day, an international public engagement that promotes the collaborative search for dark matter on and around October 31st. SNOLAB's Senior Education and Outreach Officer co-chairs this committee and coordinates the international campaign with strategic partners. In 2024, SNOLAB hosted its second annual Dark Matter Day poster contest that welcomed engagement from both k-12 students and from the community with the addition of a new age category (20-100+). SNOLAB partnered with Dynamic Earth to bring a dark matter trivia exhibit to their Halloween programming. Additionally, SNOLAB staff contributed to Particle Mysteries, a podcast about the search for dark matter.

Awards & Recognitions

For the third time in 10 years, SNOLAB factors into the prestigious Breakthrough Prizes. This year's Breakthrough Prize in Fundamental Physics is awarded to thousands of researchers from more than 70 countries representing four experimental collaborations at CERN's Large Hadron Collider (LHC), including SNOLAB's own **Drs. Stephen Sekula** and **Andy Kubik**.

Samantha Kuula was named one of YWCA Sudbury's Women of Distinction for 2024 in the Science, Engineering, Technology, and Trades category.

Mark Boulay named 2025 CAP-TRIUMF Vogt Medal for Contributions to Subatomic Physics.

Brigitte Vachon was made a Royal Society of Canada Fellow 2024. Brigitte is a member of SNOLAB's Experiment Advisory Committee.

Dr. Andrea Pocar elected fellow of the American Physical Society in the Division of Nuclear Physics. Dr. Pocar served as a member of SNOLAB's Experimental Advisory Committee (EAC) for three and a half years, stepping down in 2023.

Congratulations also go to **Andrew Erlandson**, whose PhD work at Carleton University recently earned him the university's Senate Medal for Outstanding Academic Achievement.

Andrew earned the distinction for his PhD thesis, "First observation of solar neutrino absorption on 40Ar using the DEAP-3600 detector," under the supervision of Mark Boulay. Andrew has been engaged in research with DEAP-3600 since 2016

Staff Celebration

Dr. Bruce Cleveland, a "founder" of astroparticle physics, retires from SNOLAB

October 2024 marked a retirement from SNOLAB and a new moment in the long and distinguished career of Dr. Bruce Cleveland.

Bruce earned a research staff position on the SNO experiment in 1996 and has been with SNO and SNOLAB ever since. He worked in the SNO water group and on the counting of very low-background processes, with an emphasis on the measurement of radon. But Bruce was a leader in the emerging filed of astroparticle physics long before he came to SNOLAB.

Bruce earned a research staff position on the SNO experiment in 1996 and has been with SNO and SNOLAB ever since. He worked in the SNO water group and on the counting of very low-background processes, with an emphasis on the measurement of radon. But Bruce was a leader in the emerging filed of astroparticle physics long before he came to SNOLAB.

Bruce earned his PhD in solid-state physics from Johns Hopkins University in 1970 working with Dr. James Calvin ("Cal") Walker, followed by post-doctoral positions at the State University of New York (SUNY) Buffalo (now known as the University at Buffalo SUNY) and then Columbia University. These post-doctoral years allowed Bruce to work with several remarkable people, including Dr. Chien-Shiung (C.S.) Wu at Columbia. Dr. Wu was well-known for her 1956 discovery of parity violation in the decay of cobalt-60's nucleus. A seminal research activity in this period was Bruce's work on the question of lepton number conservation in the double beta decay of selenium-82. In a 1975 paper on the subject (Phys.Rev.Lett. 35 (1975), 757-760), they put a constraint on the neutrinoless double beta decay of this isotope and used this to place a physical constraint on the violation of lepton number in nature. This measurement set a world record at the time for sensitivity to this ultra-rare process.

Our field, and specifically SNOLAB itself, is still following in the footsteps of this subject that were laid down by Bruce and others in the mid-1970s.

Bruce went on to research positions at Brookhaven National Laboratory, Los Alamos National Laboratory, and the University of Pennsylvania. During this period, he was engaged in the "solar neutrino problem" that had been kicked off earlier by the underground experimental work of Ray Davis and the theoretical work of John Bahcall, to name some of the most notable historical figures from that era.

This period was later recognized as incredibly transformative for our field, and Bruce was right at the heart of it. He worked with Ray Davis on the famous

Homestake solar neutrino experiment. He signed many of the papers that would become part of the Nobel Prize committee's cited body of work when Davis, Figure 1: Bruce Cleveland, posing in the SNOLAB surface clean lab. Masatoshi Koshiba, and Riccardo Giacconi earned the Nobel Prize in Physics in 2002.

Bruce is highly regarded for his development of the data analysis of low-statistics experiments. One of his notable publications was "**The Analysis of Radioactive Decay with a Small Number of Counts by the Method of Maximum Likelihood.**" Another highly significant paper was noted in the background information on the 2002 Nobel Prize issued by the Royal Swedish Academy of Sciences in their announcement of the prize. This was "Measurement of the solar electron neutrino flux with the Homestake chlorine detector," a publication on which Bruce was the lead author and which has been cited over 3,000 times! Bruce developed over his career into an expert on data analysis and that resulted in the analysis used in the Homestake experiment papers.

It is valuable to put this incredible period in perspective. This is summarized by the title of an article for the CERN Courier, co-authored by Ray Davis and John Bahcall: "**The beginning of a new science**". They recount that period of uncertainty and exploration, both in theoretical and experimental labours, that led to what we now call "astroparticle physics". This was a new area of science, in part born from confusion over solar neutrinos. Davis and Bahcall, the former an experimentalist and the latter a theorist, noted in their essay that "Very few people worked on solar neutrinos during 1968-1988. The [Homestake] chlorine experiment was the only solar neutrino experiment to provide data in these two decades. It is not easy for us to explain why this was the case; we certainly tried hard to interest others in doing different experiments and we gave many joint presentations. Each of us had one principal collaborator during this long period – Bruce Cleveland (experimental) and Roger Ulrich (solar models)." (CERN Courier. 27 June 2000)

Bruce earned a research staff position on the SNO experiment (which became SNOLAB much later) in 1996 and has been with our research organization ever since. He worked in the SNO water group and on the counting of very low background processes, with an emphasis on the measurement of radon. He would go on to develop the gamma radiation counting program here at the laboratory.

When SNO+ and DEAP were both proposed, he spearheaded the effort to secure two new gamma counters for installation in the underground laboratory. As this community well knows, the SNO experiment's observations were essential to the modern understanding that neutrinos have small, non-zero masses. This resulted in the 2015 Nobel Prize in Physics awarded jointly to Dr. Takaaki Kajita and Dr. Art McDonald "…for the discovery of neutrino oscillations, which shows that neutrinos have mass."

It also resulted in the awarding of the 2016 Breakthrough Prize awarded to Dr. Art McDonald and the entire SNO team.

The entire field was changed by the career of Dr. Bruce Cleveland. Indeed, Bruce was one of the founders of what we now call astroparticle physics. We are excited to remain his colleagues and friends, even as he formally retires. Bruce continues as a member of this community, a light for all of those looking to measure things deeply and change the field doing so. When asked why he chose physics as a career path, Bruce recounted that "I had some mathematical ability, liked to build things, and wanted to understand how the world worked, so physics seemed to be the right choice."

Anniversaries

Congratulations to **Reg Michaud**, who marked his 30-year work anniversary at SNO and SNOLAB.

Congratulations to **Aline Grylls** who retired from SNOLAB after 10 years in Operations.

Aline was, and Reg remains, key parts of a dedicated team that ensures SNOLAB's world leading infrastructure and experiment utilities are running smoothly.

Other quinquennial anniversaries at SNOLAB include:

25 YEARS

Sanford Clark | Supervisor, Operations

20 YEARS

Ian Lawson | Research Scientist

15 YEARS

Camille Beaudoin | Electrician

10 YEARS

Janet Young | Procurement Specialist
Mehwish Obaid | Project Management Office
Stephen Stankiewicz | Designer
Deena Fabris | Laboratory Technologist 2

5 YEARS

Kyle Guba | Industrial Technologist
Stephanie Fuller | Human Resources Officer
Stephanie Larose | Laboratory Technologist 2
Jennifer Pilon | Cleaner/Maintainer
Luc Whipple | Industrial Technologist
Andrew Stripay | System Operator
Angela Hesketh | Instrumentation
Dalton Jones | System Operator
Erica Brunelle | Administrative Assistant
Sharayah Read | Laboratory Technologist 2
Steven Maguire | Staff Scientist

SNOLAB in Photos

Public Skate
SNOLAB hosted a public skate at the T.M Davies Arena in Lively during the March Break to provide local families a safe and fun activity while offering some science tutorials on the physics of skating.

Minister Quinn
SNOLAB Executive Director Jodi Cooley met with Ontario's new Minister of Colleges and Universities Nolan Quinn in Toronto to discuss SNOLAB science, people, and projects.

SNOLAB hosts TRISEP
TRISEP is an international summer school organized jointly by SNOLAB, the Perimeter Institute for Theoretical Physics, and TRIUMF. TRISEP features lectures by leading experts in the field of particle physics and is designed to be interactive with ample time for questions, discussions, and interaction with the instructors. TRISEP's aim is to provide graduate students a broad introduction to particle physics, including the research we do here at SNOLAB.

SNOCIAL committee

SNOLAB organized a softball team (the SNOLAB Isotopes) that competed in a local Sudbury mixed recreational league in the both the summer and fall. The team gave staff, users, and students an opportunity to connect outside of work.

Other SNOCIAL activities included bowling, trivia and movie nights, local hikes, costume days, and potting sessions.

CBC / CUTE profile

Postdoc Dr. Vijay Iyer talks with CBC Radio host Jonathan Pinto about the qubit experiment as it is being installed in CUTE.

SNOLAB hosts delegation from Italy

In March, SNOLAB hosted a delegation from Italy's National Institute for Nuclear Physics (INFN) and the National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA).

Marco Pallavicini, Oscar Adriani and Marco Ciuchini from INFN, and Marco Utili from ENEA enjoyed a full lab tour. The delegation aimed to deepen the understanding of the Canadian scientific landscape on shared priorities, including climate change, energy security, immigration, and research and innovation. The visit is linked to the Roadmap for enhanced cooperation between Italy and Canada, adopted last June by Italian Prime Minister Giorgia Meloni and then Canadian Prime Minister Justin Trudeau while at the G7 Summit in Borgo Egnazia.

Creighton Mine Friends and Family Day

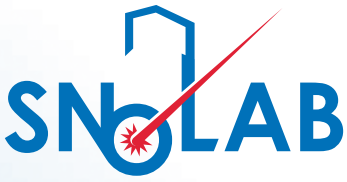
Every September, the staff at Vale's Creighton Mine organize a fun day of family-friendly events on the Creighton Mine site. SNOLAB is proud to participate by providing science displays, fun children's activities, and ice cream made with liquid nitrogen.

SNOLAB in Photos

Carleton University Tour
SNOLAB hosted the leadership group from Carleton University. DEAP-3600 postdoc Dr. Sean Daugherty explains experiment modifications on the Cube Hall deck.

Future Projects Workshop
As part of SNOLAB's long-term planning process, the lab held a community-wide review of potential future projects interested in access to the underground laboratory. The Future Projects Workshop (FPW) engages with collaborations that have an interest in using any space underground, including any of the large-scale experimental areas within SNOLAB, over the next 5 to 10 years are invited to present their capabilities, R&D projects, status, plans, and infrastructure requirements. Additionally, the workshop briefly reviewed SNOLAB's new 15-Year Plan framework introduced in the 2024 Canadian Federal Budget to support Major Research Infrastructures.

IYQ Open Doors
SNOLAB User Support Coordinator Josée Bertrand Houle reads to some students at the Greater Sudbury Public Library as part of the International Year of Quantum celebrations.


SNOLAB