News Release

January 22, 2008 for immediate use

New Funding will Support Underground Lab Operations as SNOLAB nears Completion

Officials at SNOLAB, Canada's premier astroparticle physics underground research facility are very pleased by the announcement of $17.9 million in provincial funding from the Ontario Ministry of Research and Innovation, made by Minister John Wilkinson this morning. Dr. Tony Noble, SNOLAB Director, points out that this funding is essential as SNOLAB reaches its completion milestone later this year and commences operations. "We can now proceed with our final plans for commissioning the laboratory and arranging a schedule for the new experiments" said Dr. Noble.

"SNOLAB is a world renowned facility that attracts researchers from around the globe to Sudbury," said MPP for Sudbury Rick Bartolucci. "This project will further enhance SNOLAB's international reputation and ensure that the Sudbury region can attract and retain the top research talent, and skilled workforce that northern Ontario needs to prosper in the 21st century."

With its laboratories at the greatest depth in the world, SNOLAB has attracted great interest from research groups around the world seeking the lowest background sites for next generation versions of their experiments. Said Dr. David Sinclair, Director of SNOLAB development, "The Sudbury Neutrino Observatory (SNO) experiment has given Sudbury a world-wide profile in the particle physic community, and SNOLAB researchers will have key roles in a group of new experiments which are scheduled to be installed here in the years ahead". Dr. Fraser Duncan, Associate Director of SNOLAB is pleased with the great progress made by the excavation and construction teams in bringing this 3000 square meter addition to the SNO laboratory very close to completion. "We will shortly establish *cleanroom* environments in many laboratory rooms and should have experiment installations beginning later this year. I congratulate our team members for their remarkable progress in this challenging work over the past four years", said Dr. Duncan.

As SNOLAB is completed and hosts new frontier experiments in astroparticle physics, unique research opportunities will be provided for scientists and graduate students at SNOLAB's partner institutions and the potential for new discoveries is high. Up to the minute information on the laboratory is available at www.snolab.ca .

Contact:

Dr. Fraser Duncan
SNOLAB
Creighton Mine
(705) 692-7000 Ext. 2205
cell (705) 561-0453
fduncan@snolab.ca

Dr. Doug Hallman
Laurentian University-SNOLAB
(705) 692-7000 Ext. 2273 SNOLAB
(705) 675-1151 Ext. 2202 Laurentian U.
cell (705) 562-5547
dhallman@laurentian.ca

Background Information about SNOLAB and its Experiments

SNOLAB is Canada's leading edge astroparticle physics research facility located 2 kilometers underground in the Vale Inco Creighton Mine near Sudbury Ontario. The project began in 1990 as the Sudbury Neutrino Observatory (SNO), designed to solve the Solar Neutrino Problem - the apparent discrepancy that the number of neutrinos observed emanating from the Sun was less than half of what theory predicted. In a series of analyses based on years of measurements and published between 2001 and 2006 , SNO scientists conclusively proved that the solar neutrino deficit was caused by a property of the neutrino by which it changed "flavour" from the type produced by the Sun (electron neutrinos) to other types (predominantly muon neutrinos). With the successful completion of its experimental program, the SNO experiment ended data-taking in 2006 and was decommissioned in 2007.

The enormous success of the SNO experiment proved the value of deep underground physics laboratories and SNO's results have led to more questions about the nature of neutrinos and the composition of the Universe - questions that can only be answered in experiments sited underground. The SNO team has an extensive background in setting up and operating large underground experiments under "cleanroom conditions" – expertise which has been recognized around the world. Thus in 2002 Carleton University, Laurentian University, Queen's University, the University of British Columbia, the University of Guelph (all member institutions of the SNO experiment) and the Université de Montréal applied to the Canada Foundation for Innovation (CFI) for funds to create a new international facility dubbed SNOLAB. As an expansion of the existing SNO underground facility, SNOLAB would be a permanent underground science research centre, able to house a group of experiments simultaneously. In June 2002, CFI announced major funding for SNOLAB construction. With additional funds from the Province of Ontario, the SNOLAB team was also able to construct a surface research facility which replaced temporary buildings used for the SNO experiment. SNOLAB is approximately three times larger than the original SNO underground facility and will provide space for the next generation of astroparticle physics experiments. At its 2 km depth underground (the deepest large laboratory in the world) SNOLAB has excellent shielding from the rock above, against the backgrounds caused by cosmic rays.

The new experiments will explore the properties of neutrinos, expand our understanding of the energy production mechanisms in the Sun and search for Cosmic Dark Matter - the so called "missing mass" in the Universe. The construction for SNOLAB, begun in 2004, resulted in the completion of the new surface building facility in 2005 and the expanded underground laboratory should be occupied by mid 2008. Early occupancy of the new laboratory has already begun with two Dark Matter experiments - PICASSO and DEAP-1 - housed in the existing SNO facilities. Construction for a larger experiment, DEAP/CLEAN is expected to begin this year. The conversion of the detector used in the SNO experiment to a new project called SNO+ is in the active design stage and will begin in 2009. SNO+ will measure the flux of low energy neutrinos from the sun as well as "geo neutrinos" from the earth's core, and it will include a search for a rare process – neutrino-less double beta decay - which can give important additional

information about neutrino properties. Additionally, SNOLAB's surface cleanrooms are being used to research new detection techniques for the EXO experiment which will look for the neutrino-less double beta decay process in liquid and gaseous xenon.

For further information

Dr. Tony Noble
Director, SNOLAB
Professor of Physics
Queen's University
Kingston ON
(705) 692-7000 Ext. 2236 (SNOLAB site)
(613) 522-2679 (Queen's)
potato@snolab.ca

Dr. Jimmy Law
Professor of Physics
University of Guelph
Guelph ON
(519) 824-4120 Ext. 53021
jlaw@uoguelph.ca

Dr. David Sinclair
Director of Facility Development - SNOLAB
Professor of Physics
Carleton University
Ottawa ON
(705) 692-7000 Ext. 2212 (SNOLAB site)
(613) 520-7536 (Carleton)
Sinclair@carleton.ca

Dr. Scott Oser
Professor of Physics
University of British Columbia
Vancouver BC
(604) 822-3191
oser@physics.ubc.ca

Dr. Fraser Duncan
Associate Director
SNOLAB Facility
Lively ON
(705) 692-7000 Ext. 2205
fduncan@snolab.ca

Dr. Viktor Zacek
Professeur de physique
Université de Montréal
Montréal QU
(514) 343-7758
zacekv@lps.umontreal.ca

Dr. Doug Hallman
SNOLAB Communications
Laurentian University
Sudbury ON
(705) 692-7000 Ext.2273 (SNOLAB site)
(705) 675-1151 Ext. 2202 (Laurentian)

SNOLAB website: www.snolab.ca
e-mail info@snolab.ca