



The Laboratory for Nuclear Science (LNS) and MIT's Department of Physics are excited to wish Irwin Pless a very happy 100<sup>th</sup> birthday, today March 11, 2025.

Prior to his retirement, Professor Emeritus of Physics Irwin Pless was a researcher in the Laboratory for Nuclear Science. He came to MIT as an Instructor in the Department of Physics in 1956. He was promoted to Assistant Professor in 1958; Associate Professor in 1961 and Professor in 1964. Prior to MIT he attended the University of Chicago from 1950 to 1955 where he received his S.B., S.M. (Math), S.M. (Physics) and PhD in Physics under the supervision of Roger H. Hildebrand.

Pless has made significant contributions to the fields of Experimental Particle Physics, Heavy ion collisions research, and Neutrino Astrophysics. He worked extensively with bubble chambers to measure particle tracks. Beginning in the early 1960's, Pless worked on development of the Precision Encoding and Pattern Recognition (PEPR) device along with Professor Emeritus of Physics Larry Rosenson and Bernie Wadsworth, chief of the LNS Electronics Facility. The PEPR system used a cathode ray tube, lens and photomultiplier tube to find and precisely measure particle tracks on bubble chamber film. This automation resulted in about a 60-fold increase in tracks processed, compared to manual interpretation.

Pless also contributed to the Large Volume Detector (LVD) collaboration, an underground neutrino observatory set up to study neutrinos from core-collapse supernovae. LVD still runs today at the Gran Sasso laboratory in Italy, which is operated by the Italian National Institute for Nuclear Physics. LVD is part of the international SuperNovae Early Warning System (SNEWS) and has also put stringent limits on the difference between the speed of neutrinos and light (measured to be compatible with zero, within several parts per million), using a muon neutrino beam generated at CERN in Switzerland.