

## **Art McDonald**

Arthur (Art) McDonald, CC, O. Ont, is Professor Emeritus at Queen's University and Director of the Sudbury Neutrino Observatory (SNO) International Scientific Collaboration whose measurements proved that the fundamental particles called neutrinos have a non-zero mass. These particles are so elusive that it took an ultra-clean detector the size of a ten story building, 2 km underground in Vale's Creighton mine near Sudbury to observe one neutrino from the sun per hour. This measurement requires changes to the Standard Model of Elementary Particles and confirms how the sun burns in great detail. For this, he was a co-winner of the 2015 Nobel Prize in Physics and shared the 2016 Breakthrough Prize in Fundamental Physics along with the SNO Collaboration. Born in Sydney, Nova Scotia, Canada, he received BSc (1964) and MSc (1965) from Dalhousie University and a PhD (1969) in physics from Caltech. From 1969-1982 he was a Research Officer at AECL Chalk River Laboratories; 1982-1989, Professor at Princeton University; 1989-2013 Professor at Queen's University, Kingston, Canada and in 2013 became Professor Emeritus. He continues research on Neutrinos and Dark Matter at the SNOLAB underground laboratory.