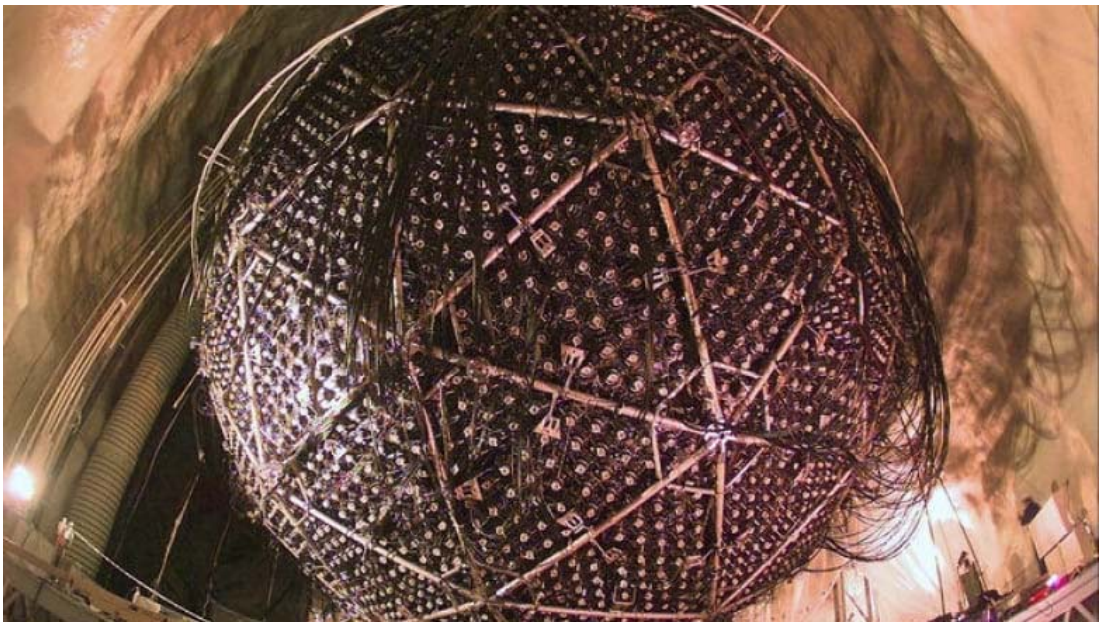
Seminario

Mercoledì 3 aprile

Dipartimento di Fisica e Scienze della Terra

Blocco C - Aula **C412** ore **15:00**

Revelations from 2 km Underground: Neutrinos from the Sun and Earth



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Neutrinos are mysterious particles that barely interact with our detectors. Yet physicists have pursued the challenge of neutrino detection for the past few decades in search of physics beyond the Standard Model... and succeeded to unlock the secrets of solar neutrinos - discovering the phenomenon of neutrino oscillations. One of the key experiments in this effort was the Sudbury Neutrino Observatory (SNO), located 2 km underground in a deep mine in Canada. After the end of the SNO experiment, the detector has been modified into a low-background liquid scintillator detector called SNO+. SNO+ will continue to probe the nature of neutrinos from the Sun and, in addition, will detect geo neutrinos, becoming the third detector in the world with this capability. This talk will tell the story of the discovery of solar neutrino oscillations with SNO and will show how the experiment has been transformed into SNO+, which is poised to start taking data with scintillator in the near future.