

Particle Physics: Uncovering the Secrets of the Universe



Monday, July 20

7 p.m. to 8:30 p.m.

Ramsey Auditorium, Wilson Hall
Fermilab, Batavia, IL

(REAL-ID compliant identification is needed to enter the Fermilab site.)



ABSTRACT

The lecture will explore the cutting-edge frontier of particle physics and our understanding of the universe at its most fundamental level – ranging from understanding dark matter to exploring the early universe. It will focus on the world's largest and most ambitious particle physics collider – the Large Hadron Collider at CERN – discussing what we have discovered at some of the remaining “big questions”. The lecture will also explore the plans for the next large particle physics projects in Europe and the US and will highlight the broader socio-economic impacts of large-scale scientific investments such as large collider projects.

FEATURED SPEAKER

Mark Thomson

Director General of CERN

Mark Thomson is a British experimental particle physicist who took up the role of CERN Director-General in January 2026. He earned his doctorate from the University of Oxford in 1991 and joined CERN in 1994, where he worked on electroweak physics in the OPAL experiment at the Large Electron-Positron (LEP) collider. He later moved to the University of Cambridge, where he was appointed Professor of Experimental Particle Physics in 2008.

Thomson also contributed to Fermilab's neutrino experiments, including MINOS and MicroBooNE, and served as one of the first co-spokespersons for the Deep Underground Neutrino Experiment (DUNE) from 2015 to 2018.

From 2018 to 2024, he served as Executive Chair of the UK Science and Technology Facilities Council (STFC), representing the UK on the CERN Council and other international bodies.

Thomson is author of the textbook *Modern Particle Physics* (2013), aimed at final-year undergraduate students and first-year graduate students, which has been widely adopted internationally.



Meeting of the
**Division
of Particles
& Fields**
of the American
Physical Society