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## Beyond the Standard Model: The Particle Physics Frontier

Department of Physics Colloquium

**T**he quest to explain nature's fundamental interactions and how they shaped the evolution of the universe is one of the most compelling in modern science.

The standard model of particle physics provides a partial explanation, but we know that it must be part of a larger, more complete framework. Experiments hoping to uncover what lies beyond the standard model are being carried out at three frontiers: the high energy frontier, involving facilities such as the Large Hadron Collider; the astrophysical frontier; and the intensity frontier.

In this talk, I review the motivation for searching for physics beyond the standard model. I then discuss how studies at the three frontiers may help solve one of the key problems not solvable in the standard model: the origin of matter.



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