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New Paths to Fundamental Physical Law

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The field formerly known as High Energy Physics is less and less confined to experiments conducted at accelerators. While it will likely take the Large Hadron Collider at CERN to find the Higgs boson or its surrogates, we are using very different techniques to explore other unknown parts of the Standard Model and the 95% of the universe that lies outside it. The unanswered questions lead to experiments 2.5 km below the earth's surface and ones 1.5 million km above it. In these ventures, particle physicists will join with nuclear physicists, astrophysicists, and astronomers to try to answer that question of interest to five-year olds and sages alike: what is the universe made of?