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Quarks to Cosmos: Breaking News at the Interface of Particle, Nuclear and Astrophysics

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Profound connections join scales all the way from the very smallest to the very largest that we can explore, and these connections now link the fields of astrophysics, cosmology, nuclear physics and particle physics. Research that crosses these traditional field boundaries are beginning to reveal new states of matter, how the Universe began, the role of neutrinos in shaping the Universe, how massive stars explode and the elements in the periodic table were made, how Nature's most powerful accelerators work, the nature of space and time and the unification of the forces, and the nature of dark matter and dark energy. These three talks will showcase these connections, highlight recent exciting results, and look toward the future.