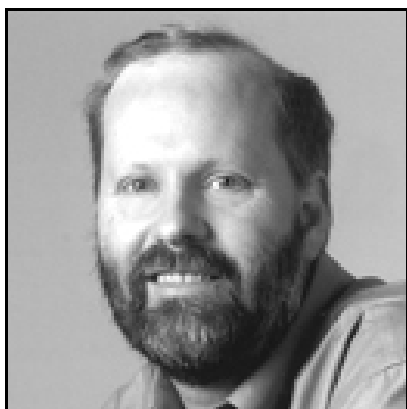




Confronting the Dark Energy Crisis in Fundamental Physics



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The best evidence we currently have for physics beyond the standard model comes from astrophysical observations: Dark Energy (repulsive gravity in the vacuum!) , Dark Matter (ordinary matter is a minority component of the mass budget of the Universe), and even the cosmic abundance of matter over antimatter are each indications of shortcomings in our understanding of basic physics. I will describe our efforts to understand the nature of the Dark Energy, and why this particular problem merits our collective attention. I'll also present the status of PanSTARRS and the Large Synoptic Survey Telescope (LSST), two ambitious ground-based optical systems that will provide new capabilities for studying diverse topics in astronomy and astrophysics, and fundamental physics.