

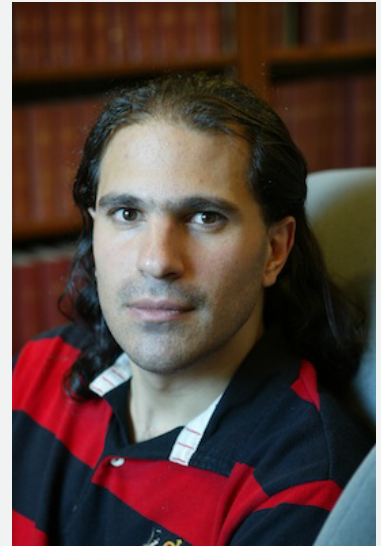
PHYSICS AND ASTRONOMY DISTINGUISHED LECTURE SERIES

Nima Arkani-Hamed

Institute for Advanced Study, Princeton

“Physics and Mathematics for the End of Spacetime”

ABSTRACT: Space-time and Quantum Mechanics are the pillars of our modern understanding of fundamental physics. But there are storm clouds on the horizon, indicating that these principles are approximate, and must be replaced with something deeper. The union of quantum mechanics and gravity strongly suggests that “space-time is doomed”, and there are related indications of fundamental limitations to quantum mechanics in both the early and late universe. In this talk I will review these paradoxes and describe indications for a new picture where space-time and quantum mechanics will be seen to emerge hand-in-hand from more primitive principles, making contact with new areas of mathematics. I will give a concrete example of how these ideas work in the context of particle collision experiments, of the sort performed at the Large Hadron Collider.



BIOGRAPHY: Nima Arkani-Hamed is a theoretical physicist with broad interests in high-energy physics and cosmology. He was educated at Toronto and Berkeley and was a professor of physics at Berkeley and Harvard before joining the Institute for Advanced Study in 2008. He was an inaugural recipient of the Fundamental Physics Prize in 2012 and was one of six physicists featured in the award-winning documentary “Particle Fever” in 2014.

Reception to be held at 6:00 p.m. in the Mitchell Institute’s Penrose Plaza



THURSDAY, SEPTEMBER 22, 2016

7:00 PM :: HAWKING AUDITORIUM, MITCHELL INSTITUTE