Department of Physics
Arizona State University

COLLOQUIUM

Thursday, September 1st, 2022

Refreshments at 3:45pm in PSF 186

Colloquium from 4:00 PM – 5:00 PM in PSF 101

The Universe Before the Big Bang

Professor Damien Easson

Arizona State University

Abstract:

We are now confident that the Big-Bang was not the beginning of the Universe, but rather the end of some yet undetermined primordial epoch. I will present the evidence supporting this belief and discuss some leading well-developed theories about this intriguing phase of our Universe. To understand this period, we require physics beyond Einstein's theory of General Relativity (GR) coupled to known sources of matter and energy. We will explore possibilities for this new physics and experimentally constrained modifications of GR. In the current era of precision cosmology, we are elevating previously philosophical questions about the origin of the Universe into the realm of scientific exploration.

Biography:

Damien Easson is a theoretical physicist and cosmologist working at the interface of particle physics and cosmology. He has worked on the early universe, inflation and bouncing cosmology, string cosmology, modified gravity, dark energy, quantum gravity and gravity/gauge theory correspondence.

Easson received Bachelor degrees from Vassar College in Physics, Mathematics and Astronomy in 1996. He received an M.S. in Physics in 1998 from Brown University where he continued, receiving his Ph.D. in Physics in 2002. He held postdoctoral positions at the University of Tokyo's Institute for Physics and Mathematics of the Universe, Durham University in the U.K., Syracuse University and McGill University in Canada. He joined the Physics Department at Arizona State University as Assistant Professor in 2010 and became Associate Professor in 2017.

Host: Prof. Cindy Keeler

View our Fall 2022 Physics Colloquium schedule at https://physics.asu.edu/colloquia