KAVLI INSTITUTE FOR THEORETICAL PHYSICS

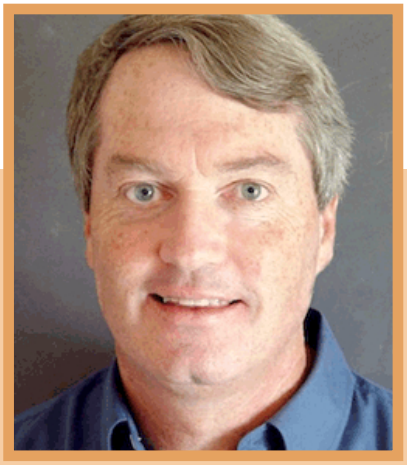
Presents

The Fifty-First KITP Public Lecture

Sponsored by Friends of KITP

Joe Polchinski

Gravity and Quantum Mechanics - The Quest for Unification



Quantum mechanics and relativity tell us that when we look at the very small, the very fast, or the very massive - then space, time, and matter behave in new and exotic ways. Each of these theories works well in its own regime, but in extreme conditions where both theories reign they conflict, and we still do not have a single theory that unites our basic understanding of the laws of physics. We have made a lot of progress, including string theory and the study of quantum black holes, but there are still many puzzling questions. In this talk I will describe what we have learned and some of the seemingly paradoxical puzzles, including the latest -- the black hole 'firewall.'

About the Speaker

JOE POLCHINSKI has been a Permanent Member of KITP and a professor in the Department of Physics since 1992. He was educated at Caltech, UC Berkeley, held postdoctoral positions at the Stanford Linear Accelerator Center and Harvard, and was on the faculty at UT Austin before joining UCSB. In 1998, he completed a two-volume graduate textbook on string theory, which has become the standard text and reference in the field. Among his many honors and fellowships, he is a member of the National Academy of Sciences, a co-recipient of the Dannie Heineman Prize, the Dirac Medal, and most recently, he was awarded the 2013 Physics Frontier Prize from the Milner Foundation. His own quest for unification began back in high school, when he learned how Maxwell "saw the light" and unified electricity and magnetism, and has continued through his discovery of D-branes, leading him to his current focus on uniting quantum mechanics and gravity.

Seating is by RSVP only at:

http://www.kitp.ucsb.edu/public-lecture-rsvp

or call (805) 893-6363 by FEB. 28, 2013

To make special arrangements to accommodate a disability, call the KITP at the number above.

Admission is Free

Wed. March 6, 2013
8:00 PM

(Reserved seats held until 7:50PM)

Kavli Institute for Theoretical Physics

Kohn Hall, Main Seminar Room

LOT 10 PARKING

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