KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Presents

The Seventy-First KITP Public Lecture

Sponsored by Friends of KITP

Stephen Shenker

Chaos, Black Holes and Quantum Mechanics

Chaos is a ubiquitous property of physical systems — it makes their future behavior extremely difficult to predict. The weather is a familiar example. Chaos underlies thermal behavior — substances at high temperature feel "hot" because of the rapid chaotic motion of their constituent molecules. Hawking discovered that quantum black holes have a temperature so it is natural to suspect that they display some kind of chaotic behavior. In this talk, we will discuss recent insights into how chaos appears in the physics of quantum black holes, and the implications of these insights for many-body physics, and for quantum gravity.

About the Speaker

Stephen Shenker was a postdoc at KITP in 1980-81, was subsequently on the faculty of the University of Chicago and Rutgers University, and is currently the Richard Herschel Weiland Professor at Stanford University. He is a theoretical physicist who has worked on problems ranging from the theory of phase transitions to the non-perturbative formulation of quantum gravity. He is a recipient of a MacArthur Fellowship and the Onsager Prize, and is a member of the American Academy of Arts and Sciences and the National Academy of Sciences. From 1998 to 2009 he was the Director of the Stanford Institute for Theoretical Physics.

Wednesday, October 24, 2018

7:00 PM (reserved seats held until 6:50 PM)

The Kavli Institute for Theoretical Physics, Kohn Hall, Main Seminar Room

Admission is Free

RSVP for Reserved Seating by

October 19, 2018

at:

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

or call

(805) 893-6350

Reserved seats are held until 6:50 PM

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

LOT 10 PARKING

From the roundabout at Hwy 217, turn right onto Mesa Rd, merge into the left lane, and turn left at the first light into Lot 10 parking structure. **PARK**, **BUY a $4 permit** from the dispenser (near the elevator and stairs), and **DISPLAY PERMIT** on dashboard. The KITP is right next door, in Kohn Hall.

The KITP gratefully acknowledges its many friends in the community.

KITP Public Lecture Series