

KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Presents

The Thirty Ninth KITP Public Lecture

Sponsored by Friends of KITP

Sankar Das Sarma

Quantum Reality

QUANTUM MECHANICS, the underlying microscopic theory of our existence governing the behavior of the physical world, is the crowning success of human intellect. It is astonishingly successful – no experiment contradicts the predictions of the theory, and the theory has been explicitly verified to be correct to a precision better than 1 part in 10^{12} . In the past 60 years, developments of quantum theory have led to the modern technology that has revolutionized the world through applications such as transistors, lasers, and magnetic discs. Despite this great success we really do not understand the quantum theory in an intuitive manner because quantum laws are so radically different from the classical laws of physics. The dichotomy that the modern world is quantum, but the precise meaning of the quantum remains elusive, disturbed the stalwarts of physics such as Einstein, Schrodinger, and Feynman, and continues to baffle physicists even today. This lecture will explore this curious state of affairs, highlighting the numerous quantum based ideas and applications which underpin our modern world and the sublime strangeness of the theory which completely eludes our intuition.

About the Speaker

SANKAR DAS SARMA is a Distinguished University Professor at the University of Maryland. He is also a professor of physics, a Fellow of the Joint Quantum Institute, and the director of the Condensed Matter Theory Center at Maryland. Das Sarma received his PhD from Brown University in 1979, and has been a faculty member at Maryland since 1980. His undergraduate degree is from Presidency College in Calcutta (Kolkata), India where he was born. Das Sarma is a frequent visitor to KITP, UCSB, having organized many KITP programs. He is currently the Chair of the KITP Advisory Board. Das Sarma's research interests are the quantum theory of matter, statistical mechanics, and quantum information. His publications and expertise are broad, ranging over topics as disparate as topological quantum computation, fluctuations in financial markets, physics of high-speed transistors, and exotic quantum properties of solids and atoms at ultra low temperatures and in ultrahigh magnetic fields.

Wednesday, February 25, 2009

8:00 PM (Reserved seats held until 7:50 PM)

Kavli Institute for Theoretical Physics, Main Seminar Room



Admission is Free
Seating is by RSVP only

Please e-mail:

events@kitp.ucsb.edu

or call

(805) 893-4111

by February 20, 2009.

**Reserved seats are held
until 7:50 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 left lane, turn left at the first light into Lot 10 parking structure. **PARK, BUY a \$3 permit** from the dispenser (near the elevator and stairs), **DISPLAY PERMIT** on dashboard. The KITP is right next door.

*The KITP gratefully acknowledges
its many friends in the community.*

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