

KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Presents

The Fiftieth KITP Public Lecture

Sponsored by Friends of KITP

Daniel S. Fisher

Can Evolution Be Understood Quantitatively?

The basic laws of evolution have been known for more than a century and there is overwhelming evidence for the *facts* of evolution. Yet little is understood quantitatively about the dynamical processes that drive evolution: by physicists' standards the *theory* of evolution is far from fully-fledged. Huge advances in DNA sequencing technology and laboratory experiments have enabled direct observations of evolution in action and, together with theoretical developments, opened up great opportunities for dramatically advancing our understanding. This talk will focus on framing questions and the challenges to be faced, along with recent progress on addressing some of these.

About the Speaker

DANIEL FISHER is a David Starr Jordan Professor of Science at Stanford University. Educated at Cornell University and Harvard University, one of his first claims to fame was being mentioned (as a high-school student) in Martin Gardner's *Scientific American* column "Mathematical Games" for his solution of a coin-toss problem. Fisher started his career at AT&T Bell Laboratories, and subsequently, held faculty positions at Princeton and Harvard. Fisher's research has mostly been in theoretical condensed matter physics, but over the past ten years, his research has shifted to biology - particularly dynamical processes in cells and evolutionary dynamics. He has also been actively involved in public policy, especially arms control and energy.

Seating is by RSVP only at:

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

or call (805) 893-6363 by JAN. 25, 2013

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

Admission is Free



**Wed. January 30, 2013
8:00 PM**

(Reserved seats held until 7:50PM)

**Kavli Institute for
Theoretical Physics**

*Kohn Hall,
Main Seminar Room*

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