

KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Presents

The Fifty-Third KITP Public Lecture

Sponsored by Friends of KITP

Eric F. Wieschaus

On Growth & Form of the Embryo: From Gene Expression to Tissue Mechanics

During development, cells in an embryo face two major tasks. First they must express distinct combinations of genes appropriate for specific cell fates such as muscle and skin. Once such patterns of gene expression are established, cells must change their shape and position to match those cell fates. These transformations are remarkable for their speed and precision, but also for their incredible beauty. The associated cell-shape changes depend on local patterns of gene activity, but how such patterns are converted into the physical properties controlling shape and motility is a major unanswered question in biology. In my talk I will describe my lab's attempts to address these questions using the *Drosophila* embryo as a model system. Our findings open up a new perspective on the relationship between cells and organismal morphology.

About the Speaker

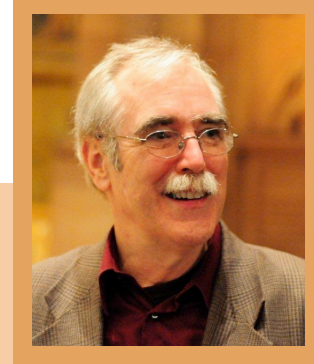
ERIC WIESCHAUS is the Squibb Professor in Molecular Biology at Princeton University, and was educated at Notre Dame and Yale. Along the way he did research in Basel, Zurich and Heidelberg, before arriving in Princeton in 1981. Famed for his work on *Drosophila*, his first encounter with this species was preparing fly food in Harvey Bender's lab at Notre Dame. He shared the 1995 Nobel Prize in *Physiology or Medicine* for his work revealing the genetic control of embryonic development.

As a boy in Alabama, he spent much of his time painting and drawing, and he dreamed of becoming an artist. His visual approach to understanding embryonic development may have, he says, partly assuaged his teenage dreams.

Wednesday, July 31, 2013

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

Kavli Institute for Theoretical Physics, Main Seminar Room



Admission is Free
RSVP for Reserved Seating
by July 26, 2013

at:

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

or call

(805) 893-6371

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 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.

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