

KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Presents

The Fifty-Sixth KITP Public Lecture

Sponsored by Friends of KITP

M. Cristina Marchetti

The Physics of Flocking

Birds flock, bees swarm and fish school. These are just some of the remarkable examples of collective behavior found in nature. Physicists have been able to capture some of this behavior by modeling organisms as tiny arrows that align with their neighbors according to simple rules. Successes like these have spawned a field devoted to the physics of 'active matter,' which studies both living and non-living systems where a large number of individually driven units exhibit coherent organization at larger scales. Such systems include suspensions of swimming bacteria, layers of migrating cells, and collections of synthetic microswimmers. Physicists, biologists, engineers and mathematicians are now engaged in modeling the complex behavior of these systems, and in trying to identify universal principles.

About the Speaker

CRISTINA MARCHETTI, the William R. Kenan Jr. Professor of Physics at Syracuse University, was educated in Italy at the University of Pavia, earned her Ph.D. in the U.S. at the University of Florida, and joined the faculty at Syracuse University in 1987. She was awarded her present, endowed chair in 2005. Marchetti is a versatile theoretical physicist who has worked on a broad range of problems including supercooled fluids, glasses and superconductors. Currently, she is interested in understanding the emergent behavior of soft and biological materials, from vibrating grains of sand to cell motion in living tissues. She has held elected positions in the American Physical Society, and she continues to play a leadership role in the scientific community.

Wednesday May 14, 2014
8:00 PM



Admission is Free

***RSVP for Reserved seating
by Monday, May 12 at***

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

or call 805.893.6363

(Reserved seats held until 7:50PM)

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

*Kohn Hall,
Main Seminar Room*

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 \$4 permit** from the dispenser (near the elevator and stairs), **DISPLAY PERMIT** on dashboard. The KITP is right next door.

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