



FRIENDS OF THE KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Chalk Talk

From accreting black holes to merging galaxies: How computers are revolutionizing astrophysics

Connections between computation and the study of celestial events have a long history, but ever-increasing improvements in computer hardware and software are actually transforming astrophysics. I'll begin with a description of why computation is crucial for the solution of a variety of problems at the forefront of astronomy and astrophysics. I'll next outline the challenge of developing, testing, and implementing numerical algorithms for the investigation of these problems on modern high-performance computer systems. And, finally, I'll conclude with the importance of training future scientists in scientific computation, and the need for tools to handle the complexity of its codes.

Wednesday, June 4, 2014

Kohn Hall, UCSB

5:30 PM Courtyard Reception

6:15-7 PM Presentation

7-7:15 PM Questions & Discussion

**Attendance only by Reservation
RSVP by May 28**

**On-Line: www.kitp.ucsb.edu/chalk-talk-rsvp
Phone: 893-4111 or events@kitp.ucsb.edu**

LOT 10 PARKING

As you enter campus from Hwy 217, turn right onto Mesa Rd, merge into left lane, at the stop light turn left into Parking Structure 10. PARK on the second floor or above, BUY a \$4 permit from the dispenser (near the elevator and stairs), DISPLAY PERMIT on dashboard. The KITP is right next door in Kohn Hall.



James Stone

Director,
Princeton Institute for
Computational Science and
Engineering

JAMES STONE is a Professor in the Department of Astrophysical Sciences at Princeton University. A native of Canada, he studied in both Canada and the US before earning his PhD in astronomy from the University of Illinois (Urbana-Champaign) in 1990. He was a postdoc at UIUC, and a member of the faculty at the University of Maryland and at Cambridge University, before he moved to his present position at Princeton in 2003. Prof. Stone uses numerical methods to study nonlinear and multidimensional fluid dynamics in astrophysical systems, such as accretion flows onto black holes. The recipient of a number of honors, in 2011 he was awarded the Rahman Prize for Computational Physics by the American Physical Society.