

Friends of the Kavli Institute for Theoretical Physics

Chalk Talk

Atto-Physics:



Anthony Starace Professor University of Nebraska Lincoln

Anthony F. Starace researches theoretical atomic-molecular-optical (AMO) physics, in particular attosecond physics, intense laser-atom interactions and ultrafast molecular and atomic processes. After a B.S. degree at Columbia College, he earned graduate degrees at the University of Chicago, and went on to postdoctoral studies at Imperial College, London. He is currently the George Holmes University Professor in the Department of Physics & Astronomy at the University of Nebraska -Lincoln. Among his honors, he is a Fellow of the American Physical Society, and of the American Association for the Advancement of Science. He also dabbles in the applied physics of racquet sports, such as squash and badminton -- another arena where timescales between exchange interactions are ultrashort.

Observing Matter on its Natural Timescale

Atto-physics is an emerging field whose goal is to probe and control matter on its natural time scale. For electronic motion in atoms, molecules, and solids this is measured in attoseconds (= 10^{-18} sec, or one millionth of one millionth of one millionth of a second). Improvements in laser and optical technologies have enabled experimentalists to produce pulses of light whose durations are measured in attoseconds. Such pulses have opened new avenues for studying not only the time domain, but also spatial scales smaller than molecular and even atomic dimensions. They promise a revolution in our knowledge and understanding of matter, and, in the near future, our ability to control matter on the scale of atoms.

Wednesday, September 10 Kohn Hall, UCSB 5:30 pm Courtyard Reception 6:15 - 7 pm Presentation 7 - 7:15 pm Questions & Discussion

Attendance by Reservation Only RSVP by September 3 On-Line: www.kitp.ucsb.edu/chalk-talk-rsvp Phone: (805) 893-6383 or events@kitp.ucsb.edu

Lot 10 parking

As you enter campus from Hwy 217, turn right onto Mesa Rd, merge into the left lane, and at the stop light turn left into Parking Structure 10. Park, buy a permit from the dispenser (near the elevator and stairs), and display the permit on your dashboard. The KITP is right next door to the parking structure.