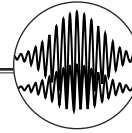
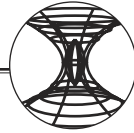


JILA

NISTCU



JILA is one of the nation's leading research institutes in the physical sciences. A joint institute of the University of Colorado and the National Institute of Standards and Technology, JILA is located on the CU campus. JILA's NIST members hold adjoint faculty appointments at CU. The 28 active JILA Fellows work with 114 students, 43 research associates, 52 staff, and 11 retired Fellows to carry out their research and educational responsibilities.

JILA scientists explore some of today's most challenging and fundamental scientific questions about quantum physics, the design of precision optics and atom lasers, the fundamental nature of matter, and processes that shape the stars and galaxies. JILA science encompasses seven categories: astrophysics, atomic & molecular physics, biophysics, chemical physics, materials physics & chemistry, optical physics, and precision measurement.

Astrophysicists study our origins and place in the scheme of things. They investigate such topics as the dynamics of the Sun, the interaction of black holes with space, and the fundamental properties that give rise to the universe itself. They analyze vast amounts of data gathered by ground and space-based instruments.

JILA makes major contributions to research in ultracold matter and the control of atoms and molecules with ultrafast light. The institute is world renowned for its work in Bose-Einstein and fermionic condensation and the development of ultrafast lasers capable of manipulating matter at room temperature. JILA research in optical physics and precision measurement enhances these efforts and advances the frontiers of these disciplines. Optical physicists investigate ultrafast light sources and the control of ultrashort pulses. Precision measurement experts advance optical metrology, measuring fundamental parameters, developing a new generation of atomic clocks, and creating some of the world's most sensitive measurement devices.

Biophysicists, chemical physicists, and materials scientists apply the tools of physics to understanding living systems at the molecular level, chemical structures and reactions at the microscopic and quantum mechanical levels, and chemical surfaces, polymers, and patterned thin-film structures. Biophysics projects include the measurement of helicase motions along DNA and the elucidation of folding dynamics of single molecules of RNA. Chemical physics research includes the comparison of electronic structure calculations with experimental investigations of photodetachment and photoionization dynamics. Materials scientists investigate the coherent dynamics of semiconductors and monitor changes in specific atoms as fast chemical reactions unfold on a surface.

CU Physics Professor Chris Greene is the Chair of JILA through December 2006. CU Fellows and NIST Fellows alternately fill the two-year position of Chair. The Chair oversees JILA administration, collaborating with the Fellows' Executive Committee, Julie Bachinski, the JILA Executive Officer, and Steve Cundiff, Division Chief of NIST's Quantum Physics Division.

JILA's faculty includes three Nobel laureates, Carl Wieman, Eric Cornell, and Jan Hall, as well as two John D. and Catherine T. MacArthur Fellows, Margaret Murnane and Deborah Jin. Each year, JILA scientists publish more than 200 original research papers in national and international scientific journals and conference proceedings. Creative collaborations among the JILA Fellows, their groups, CU professors, and NIST staff members play a key role in generating the pioneering research JILA is known for around the world.

