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The Department of Physics of the University at Buffalo Presents

The Sixteenth Annual Moti Lal Rustgi Memorial Lecture

Time, Einstein and the Coolest Stuff in the Universe

Dr. William D. Phillips

Joint Quantum Institute (NIST and U. of Maryland)

Friday, April 23, 2010 | 225 NSC, 5:00 pm | UB Amherst Campus

This Lecture is Free and Open to the Public
For information contact the Physics Department
716.645.2017 or Email: ubphysics@buffalo.edu
or visit www.physics.buffalo.edu

At the beginning of the 20th century Einstein changed the way we think about Nature. At the beginning of the 21st century Einstein's thinking is shaping one of the key scientific and technological wonders of contemporary life: atomic clocks, the best timekeepers ever made. Such super-accurate clocks are essential to industry, commerce, and science; they are the heart of the Global Positioning System (GPS), which guides cars, airplanes, and hikers to their destinations. Today, atomic clocks are still being improved, using atoms cooled to incredibly low temperatures. Atomic gases reach temperatures less than a billionth of a degree above Absolute Zero, without freezing. Such atoms are at the heart of Primary Clocks accurate to better than a second in 80 million years as well as both using and testing some of Einstein's strangest predictions. This will be a lively, multimedia presentation, that includes experimental demonstrations and down-to-earth explanations about some of today's most exciting science.

Dr. Phillips obtained his Ph.D. in physics from M.I.T. in 1976. He leads the Laser Cooling and Trapping Group at the National Institute of Standards and Technology, and is Distinguished University Professor of Physics at the University of Maryland. He was awarded the Nobel Prize for Physics in 1997 for developing methods to cool and trap atoms with laser light. He is a member of the National Academy of Sciences, the Pontifical Academy of Sciences, along with several other national and international scientific societies. He has received numerous awards and prizes for his scientific discoveries, and is a much sought after public speaker.

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