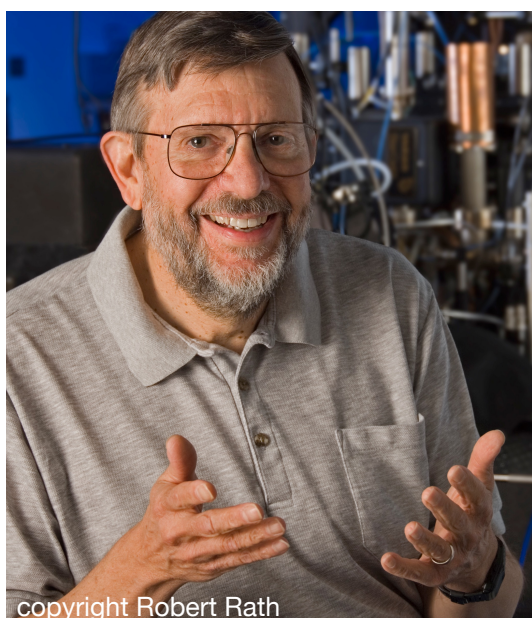


**DR. WILLIAM D. PHILLIPS**  
**JOINT QUANTUM INSTITUTE, NIST, U MARYLAND,**  
**1997 NOBEL LAUREATE IN PHYSICS**

**“Time, Einstein and the coolest stuff in the universe”**



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At the beginning of the 20th century Einstein changed the way we think about Time. Now, at the beginning of the 21st century, the measurement of Time is being revolutionized by the ability to cool a gas of atoms to temperatures billions of times lower than anything else in the universe. Atomic clocks, the best timekeepers ever made, are one of the scientific and technological wonders of modern life. 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, the best primary atomic clocks use ultracold atoms, achieve accuracies better than a second in 300 million years, and are getting better all the time. Super-cold atoms, with temperatures that can be below a billionth of a degree above absolute zero, use, and allow tests of, some of Einstein's strangest predictions.

This will be a lively, multimedia presentation, including experimental demonstrations and down-to-earth explanations about some of today's most exciting science.

**2 P.M., Saturday April 2, 2016**

**Physics Lecture Hall, Busch Campus, Rutgers University**

The Irons Lectures are free talks intended for the general public: high school students and teachers, college students and teachers, friends, neighbors, and anyone interested in science and science education.

The general public is cordially invited to this lecture, which will be given in the Physics Lecture Hall on the Busch Campus of Rutgers University. Free parking is available in lots 53A, 53 and 64. Driving and parking directions are available at the Physics Department website at <http://www.physics.rutgers.edu>. For further information, contact Nancy DeHaan ([nancy@physics.rutgers.edu](mailto:nancy@physics.rutgers.edu), phone: 848-445-8973)