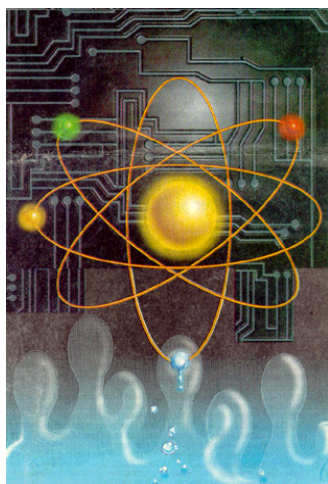


The Bit and the Quantum



After one hundred years of research, physicists are still coming to grips with the meaning of quantum physics. Quantum founding father Erwin Schroedinger coined the term “entanglement” to refer to the strange-seeming correlations that can exist in the measured properties of two separated objects. Now, physicists are attempting to use entanglement between atoms or photons to construct a new generation of computers, called quantum computers, which could open a window to the inner workings of quantum physics. The idea is to replace the switches that represent the ones and zeros (“bits”) in conventional computers by quantum switches that represent quantum bits.

Michael G. Raymer received his Ph.D. from the University of Colorado, and after a tenure on the faculty at the Institute of Optics, University of Rochester, in joined the University of Oregon in 1988. Professor Raymer served as founding Director of the Oregon Center for Optics. His research focuses on the quantum mechanics of light and its interaction with atoms molecules, and semiconductors, with application in nonlinear optics, communications technology, and quantum information. In 1993, his group reported the first instance of experimental quantum-state tomography of light. He has held visiting appointment in Colorado, Germany and Norway. He is a Fellow of the American Physical Society and of the Optical Society of America. He has served on the Committee on AMO Science, National Research Council, and on the Executive Committee of the Division of Laser Science, APS.



Dr. Michael Raymer

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- Fellow, American Physical Society

~**COLLOQUIUM**~

Friday, May 16, 2008

3:00 p.m. in Boyle 155, COCC Campus

Presented by **Dr. Michael Raymer**

Knight Professor and
Director of Oregon Center for Optics,
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