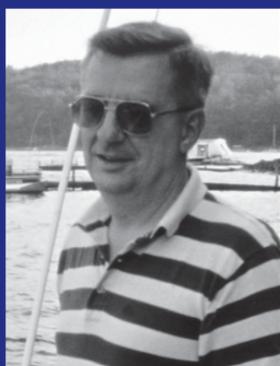




## *BELL'S THEOREM, ENTANGLEMENT, QUANTUM TELEPORTATION AND ALL THAT*



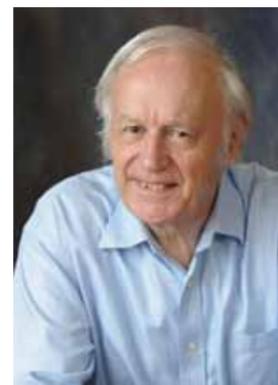
**FRANK J. FEIGL**

The Feigl Lecture was established by Lehigh's department of physics in memory of Frank J. Feigl, who served 21 years on the department's faculty until his death in 1988. A well-read advocate of liberal education, Feigl was renowned for his research into the impurities and defects in semiconducting materials and insulators, and was elected a Fellow of the American Physical Society.

**THURSDAY, MARCH 28, 4:10 PM 270 LEWIS LAB**

One of the most surprising aspects of quantum mechanics is that under certain circumstances it does not allow individual physical systems, even when isolated, to possess properties in their own right. This feature, first clearly appreciated by John Bell in 1964, has in the last three decades been tested experimentally and found (in most people's opinion) to be spectacularly confirmed. More recently it has been realized that it permits various operations which are classically impossible, such as "teleportation" and secure-in-principle cryptography. This talk is a very basic introduction to the subject, which requires only elementary quantum mechanics. It is primarily aimed at senior undergraduates or beginning graduate students.

2003 Nobel Prize in Physics recipient Sir Anthony J. Leggett has shaped the theoretical understanding of normal and superfluid helium liquids and other strongly coupled superfluids. Widely recognized as a world leader in the theory of low temperature physics, he is a member of the National Academy of Sciences, the American Philosophical Society, and the American Academy of Arts and Sciences, among many other prestigious bodies, and was knighted (KBE) by Queen Elizabeth II in 2004 "for services to physics." He currently serves as the John D. and Catherine T. MacArthur Professor of Physics at University of Illinois.



**Sir Anthony J. Leggett**

**FREE AND OPEN TO THE PUBLIC**

### **KARAKASH LECTURE**

Dr. Leggett will also give a non-technical talk titled  
***Why Can't Time Run Backwards?***  
on Wednesday, March 27, 4:10 PM in Lewis Lab 270

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