

**PRESS RELEASE
WINNERS ANNOUNCED
1997/1417H KING FAISAL INTERNATIONAL PRIZE
FOR
SCIENCE**

Topic: PHYSICS

The King Faisal International Prize for Science is awarded this year for Physics. The Selection Committee decided that the Prize should be awarded to two American scientists:

**PROFESSOR CARL E. WIEMAN
and
PROFESSOR ERIC A. CORNELL**

of the University of Colorado and the National Institute for Standards and Technology. They have been awarded the 1997 King Faisal Prize in Science for having brilliantly succeeded in achieving a Bose-Einstein condensate by combining laser and evaporative cooling of matter in new atomic traps down to a record temperature of 170 Nano-kelvins. (A Nano-Kelvin is a billionth of a Kelvin).

All particles of matter belong to one of two classes. The first, called fermions, which include the electrons, cannot be made to occupy the same state. The second, called bosons, which include the photons and many atoms, can, in principle, occupy the same state in any number. This classification was made early in the century through the work of many scientists, including Einstein, Fermi, and Bose. Ever since the attempt to observe a sample of bosons, coalescing to become a coherent whole, has been a major aim for physicists. During the last fifteen years, efforts accelerated in this field and culminated in the achievement of Bose-Einstein condensate of a dilute gas, for the first time, by Professor Carl E. Wieman and Professor Eric A. Cornell in 1995.

This breakthrough opens up an exciting new field of study and is now pursued in many laboratories around the world the discovery deepens our understanding of matter in a new phase at the lowest temperature achieved by man.