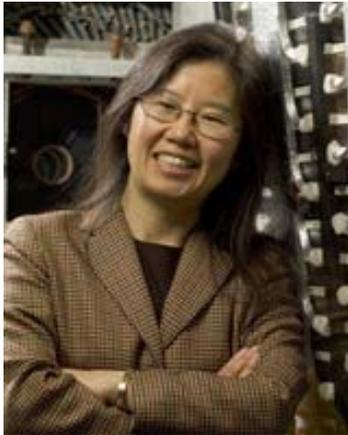


## YOUNG-KEE KIM

*Professor of Physics, The University of Chicago  
Deputy Director, Fermi National Accelerator Laboratory*



### 2010 Vaden W. Miles Memorial Lecturer

**Thursday, April 1, 2010  
Spencer M. Partrich Law School Auditorium  
471 W. Palmer Street  
Wayne State University  
Detroit, Michigan 48202**

*Refreshments served at 3:00 pm; Lecture from 4:00-5:00 pm*

Please visit us at: <http://www.clas.wayne.edu/Physics/>

### ***Extreme Physics where Small and Big Things Meet***

The profound discovery of Einstein a century ago, that particles can both be made from energy and disappear back into energy, inspires the experiments that provide our knowledge of the smallest building blocks of matter. The experiments, done at enormous energy and intensity frontier accelerators, have led to a consistent theory of the origins of our world up to a certain point. However, at an energy scale not far above what we can attain at existing accelerators, this picture is predicted to break down. Moreover, the theory of the very small is intimately connected to cosmology -- the ultimate cause and structure of our universe. Cosmological observations again point to the need for a new theory in this energy range. In this colloquium, I will trace out the path from where we are and what we need to do to take the next step towards understanding the nature of space and time. The discovery of new particles or new laws at energy and intensity frontier accelerators will open up windows on this world.

Young-Kee Kim, an experimental particle physicist whose research focuses on understanding the origin of mass for fundamental particles, is a Professor of Physics at the University of Chicago and the Enrico Fermi Institute. Since July 2006, she has been the Deputy Director of the Fermi National Accelerator Laboratory. In this role Prof. Kim leads and manages development and implementation of the strategic plan and establishes the oversight mechanisms to ensure compliance with the plan as well as the ability to adapt to changing circumstances. Prior to her role as Deputy Director, Prof. Kim served as co-spokesperson for the CDF collaboration at Fermilab's Tevatron, a collaboration with more than 600 physicists around the world. In 2005 she was awarded the Ho-Am Prize in South Korea, which is given to "those who have made outstanding contributions to the development of science and culture, and enhancement of the welfare of mankind". She is a Fellow of the American Physical Society, and has been a recipient of the Alfred Sloan Foundation Fellowship as well as an award from the National Science Foundation Professional Opportunities for Women in Research and Education. Prof. Kim received her Ph.D. in Physics from the University of Rochester, and worked as a postdoctoral research fellow at Lawrence Berkeley National Laboratory. She was a Professor of Physics at the University of California, Berkeley, before she moved to the University of Chicago in 2003.