The Chinese University of Hong Kong
Faculty of Science / Department of Physics

C N Yang Lecture in Physics

The Second Quantum Revolution: A Unification of Matter and Information

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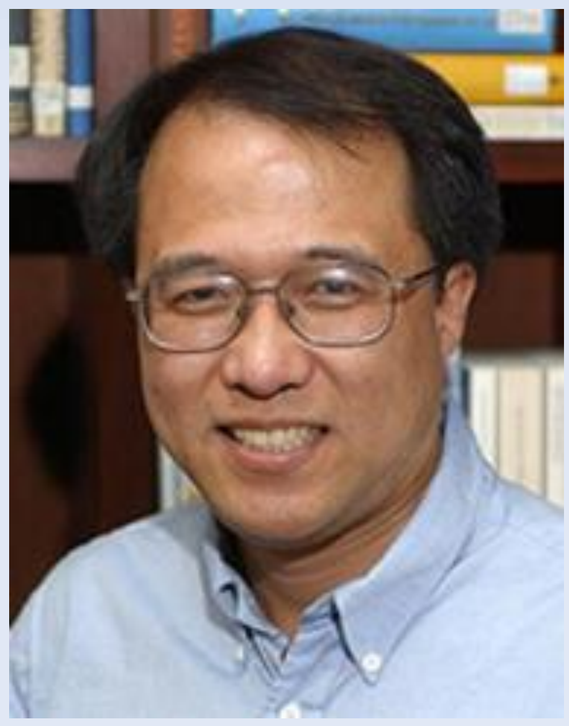

Date: December 11, 2017 (Monday)
Time: 4:00 - 5:30 p.m.
Place: L1, Science Centre, CUHK

Light refreshments will be served at SCNB 1/F lobby from 3:30p.m. to 3:50p.m.

Abstract

Physics, in particular condensed matter physics, is a very old field. Many people are thinking that the exciting time of physics has passed, and we enter the beginning of the end of physics. The only important things in physics are its engineering applications. However, I feel that we only see the end of the beginning. The exciting time is still ahead of us. In particular, now is a very exciting time in physics, like 1900 - 1930. We are seeing/making the second quantum revolution which unifies information, matter and geometry. In this talk, I will describe the previous four revolutions in physics: mechanical revolution, electromagnetic revolution, general relativity revolution, and quantum revolution, as well as the fifth -- the second quantum revolution, which unify matter and information. Each revolution unifies seemingly unrelated phenomena. Each revolution requires new mathematics to describe the new theory. Each revolution changes our world view.

Biography

Xiao-Gang Wen received a BS in physics from University of Science and Technology of China in 1982 and a Ph.D. in physics from Princeton University in 1987.

He studied superstring theory under theoretical physicist Edward Witten at Princeton University. Wen later switched his research field to condensed matter physics while working with theoretical physicists Robert Schrieffer, Frank Wilczek, Anthony Zee in Institute for Theoretical Physics, UC Santa Barbara (1987-1989). He became a five-year member of IAS at Princeton in 1989 and joint MIT in 1991. Wen is a Cecil and Ida Green professor of Physics at MIT, a Distinguished Moore Scholar at Caltech, and a Distinguished Research Chair at Perimeter Institute.

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