Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
CONSULAT GÉNÉRAL DE FRANCE
À HONG KONG ET MACAO

THE
LÉGION D'HONNEUR CLUB
HONG KONG CHAPTER
ASSOCIATION LIMITED

COLLÈGE
DE FRANCE
1530

INSTITUT DE FRANCE
Académie des sciences

香港城市大學
City University
of Hong Kong

Advances in Atomic Physics From Optical Pumping to Quantum Gases

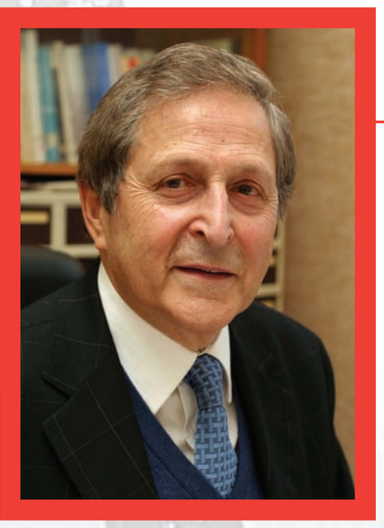
by

Claude Cohen-Tannoudji

1997 Nobel Laureate in Physics
Laboratoire Kastler Brossel, Ecole Normale Supérieure, Paris
Honorary Professor at the Collège de France
Member of the French Academy of Sciences

FRANCE – HONG KONG
DISTINGUISHED
LECTURE SERIES

A series of high-profile lectures under the auspices of the French Academy of Sciences



Abstract:

We review in this lecture a few breakthroughs in the evolution of atomic physics during the last few decades, showing the continuity between researches done at different times and emphasizing the new fruitful dialogue which is being established between atomic physics and other disciplines like theoretical physics, condensed matter physics and many body physics. A few general trends of this evolution will be pointed out explaining the advances that have been achieved and which could be at the origin of future developments.

Special attention will be paid to the full control of internal and external degrees of freedom of atoms and of their interactions, which can now be achieved in atomic physics experiments. These achievements have been made possible by the development of optical pumping methods first proposed sixty years ago, by the availability of laser sources first realized fifty years ago, and by the invention of new methods, like laser cooling and trapping, evaporative cooling and Feshbach resonances. The possibility to achieve ultracold gaseous samples of strongly interacting atoms and to control all experimental parameters allows one to explore new physical situations, to realize simple models of more complex quantum systems found in other fields of physics and to get a better understanding of their behavior.

Date: 13 January 2012 (Friday)

Time: 4:00 pm

Venue: Connie Fan Multi-media Conference Room
4/F, Cheng Yick-chi Building
City University of Hong Kong

Enquiries: Ms Anne Yeung
Tel: 3442 9268
Fax: 3442 0322
Email: anne.yeung@cityu.edu.hk

A launch of the new book "Advances in Atomic Physics. An Overview" written by Professor Claude Cohen-Tannoudji and Professor David Guéry-Odelin, as well as a tea reception, will be organized by World Scientific Publishing Co Pte Ltd after the lecture.

All are Welcome