

# Joint CQSE and CASTS Seminar

Weekly Seminar  
Mar. 14, 2014 (Friday)

TIME Mar. 14, 14:30 ~ 15:30  
TITLE Recent Developments in Non-Markovian Quantum Dynamics  
SPEAKER Prof. Ting Yu  
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PLACE Rm716, CCMS & New Physics Building, NTU

## Abstract

In this talk I will report our recent work on the exact stochastic Schroedinger equation for the dynamics of an open quantum system coupled to a reservoir consisting of a finite or infinite number of bosons (or fermions). We use this stochastic approach to derive the exact master equation for a bosonic (fermionic) system strongly coupled to reservoirs. The generality and applicability of our stochastic approach is justified and exemplified by a four-level atomic system and a multiple qubit system. concerning quantum decoherence and quantum interference. In each case, the exact non-Markovian dynamics is studied. We show that the quantum coherence property of the quantum open system can be profoundly modified by the environment memory.

