Speaker: **Shiue-Yuan Shiau, University of Luxembourg**

Title: **Composite boson many-body physics**

Date: **Tuesday, April 15, 10:00 am**

Place: **Seminar room 915**

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Abstract:

The major difficulty we face when dealing with composite bosons made of two fermions is that it is impossible to know which fermion pair forms a composite boson because of fermion indistinguishability. Consequently, there is no proper way to write an effective Hamiltonian for composite bosons, nor is there any way to define the "interaction" between them. I will first introduce the composite boson many-body formalism to address this difficulty. Then I will talk about two physics related to composite boson nature: composite boson scattering length, and how to optically detect quantum coherence of dark exciton condensates.