# Seminar 2021

## Math

# Asymptotic emergent dynamics of the Schrödinger-Lohe model

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**Abstract:** In this talk, we introduce a coupled system of nonlinear Schrödinger equations, so-called the Schrödinger-Lohe (S-L) model as a phenomenological model for quantum synchronization. Then, we briefly review recent progress on the S-L model from the perspective of asymptotic emergent dynamics. For the analytic results, the two-point correlation function defined as the inner product of two wavefunctions is mainly used. On the other hand for the numerical result, we adopt the time splitting spectral method together with the Crank-Nicolson method to discretize the S-L model. If time allows, we will provide a quantum hydrodynamic description of the S-L model for a two-oscillator system.

## 연세대학교 수학계산학부

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