國立中央大學數學系

線上專題演講

主 講 人：蕭定洋博士 (International School for Advanced Studies, Italy)

演講題目：Benjamin–Feir instability of capillary–gravity Stokes waves

演講茶會：2026年11月12日(星期四) 15:30~16:00

茶會地點：中央大學鴻經館 M107

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線上演講連結：

(1) https://meet.google.com/hpq-hhwo-xoe

(2) 開啟google meet並輸入下列代碼：hpq-hhwo-xoe

Abstract：

A Stokes wave is a periodic water wave that travels without changing shape. Suppose its height varies slightly over a distance spanning many crests. Will that variation stay small, or will it grow as the wave travels? This question lies at the heart of the Benjamin–Feir instability.

In this talk, I will explain how water depth and surface tension influence the stability of small-amplitude Stokes waves. In joint work with Alberto Maspero, we describe the spectrum near the origin of the water-wave equations linearized about a Stokes wave in finite depth. In the unstable regimes, two spectral branches trace a figure eight in the complex plane. Each point on the figure eight with positive real part corresponds to a perturbation that grows exponentially in time.

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