國立中正大學數學系
暨應用數學碩士班、統計科學碩士班
學　術　演　講

Effects of Noise in Genetic Oscillations

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Abstract

Genetic oscillations are regulatory motifs in the molecular control circuits of living cells, and very noisy in oscillation period and amplitude. They are generated by delayed negative feedback loops. This delay is distributed due to a sequence of noisy biological processes. It has been commonly believed that delay noise weakens oscillatory dynamics.

In this study, we demonstrate that noisy delay can surprisingly reduce noise in genetic oscillators. Specifically, moderate delay noise improves genetic oscillations. We show that this denoising phenomenon occurs in a variety of well-studied genetic oscillators and use queueing theory to uncover the universal mechanisms that produce it.

日　期:113 年 6 月 12 日(星期三) 15:10~16:00

地　點：本校數學館 527 教室（嘉義縣民雄鄉大學路 168 號）

茶　會：14:30~15:00 數學館四樓 409 室舉行

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