

# JONG-SHENQ GUO

Distinguished Research Chair Professor  
(Tamkang University)

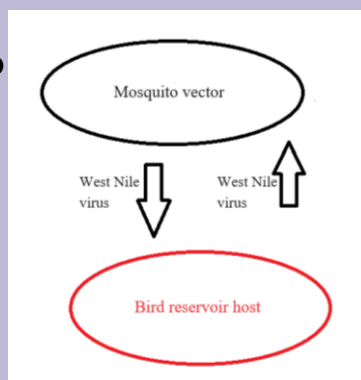


## Spreading dynamics for an epidemic model of West-Nile virus with shifting environment

We study the disease-spreading dynamics of the West Nile virus (WNV) epidemic model under shifting climatic conditions. A WNV epidemic model is developed incorporating a shifting net growth term to depict the evolving mosquito habitat.

First, we comprehensively characterize the spreading dynamics of mosquitoes for any given climate change speed compared with the intrinsic spreading speed of mosquitoes.

Utilizing the results from mosquito dynamics, we determine the spreading dynamics of infected birds and mosquitoes, taking into account relationships among the shifting speed and the spreading speeds of mosquito and WNV. Ultimately, we find that infected mosquitoes and birds propagate, and their population densities converge to a stable Positive endemic state. This paper provides crucial insights into the impact of climate change on the spread of vector-borne diseases such as WNV.



↓参加登録はこちら↓



# 8月5日 (月) 15:00-16:30

武蔵野大学有明キャンパス, 4号館412教室, ハイブリッド開催

参加ご希望の方は, 右上のQRコードより参加登録をお願いいたします。

参加費無料 登録締切: 8/4 (日)

国際展示場駅 徒歩7分  
東京ビッグサイト駅 徒歩6分



コーディネーター: 佐々木多希子 (武蔵野大学工学部数理工学科 准教授)

問い合わせ先: 武蔵野大学数理工学センター

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