学术报告

报告题目：A General Periodic Discrete Model on Wolbachia Transmission Dynamics in Mosquito Populations

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报告时间：2021 年 10 月 29 日 19：30

报告地点：腾讯会议 ID：626804982

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报告摘要：

How to prevent and control the outbreak of mosquito-borne diseases, such as malaria, dengue fever and Zika, is an urgent worldwide public health problem. The most conventional method for the control of these diseases is to directly kill mosquitoes by spraying insecticides or removing their breeding sites. However, the traditional method is not effective enough to keep the mosquito density below the epidemic risk threshold. With promising results internationally, the World Mosquito Program's Wolbachia method is helping to reduce the occurrence of diseases transmitted by mosquitoes. In this talk, I will introduce a generalized discrete model to study the dynamics of Wolbachia infection frequency in mosquito populations where infected mosquitoes are impulsively released. This generalized model covers all relevant existing models since 1959 as special cases. After talking known results of discrete models deduced from the generalized one, some interesting open questions will be offered to be further investigated for the periodic impulsive releases.

报告人简介：庾建设，教授，博士生导师。主要从事微分方程动力系统、差分方程、泛函微分方程及生物数学模型的理论与应用研究。在《Nature》、《Journal of Differential Equations》、《SIAM Journalon Applied Mathematics》，《Journal of Mathematical Biology》、《中国科学》等国内外学术期刊发表论文 100 多篇，国家自然科学基金杰出青年基金获得者，先后主持国家自然科学基金重点项目 3 项、国家自然科学基金面上项目 4 项、主持教育部高校博士点基金和其它省部级基金 10 余项。入选国家“百千万人才工程”第 一、二层次人选，被评为国家有突出贡献的中青年专家。

理学院

2021 年 10 月 26 日