The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Mathematical modeling of cholera dynamics

By

Prof. Jin WANG
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Abstract

We present a few research projects for modeling the transmission dynamics of cholera, a waterborne infectious disease that remains a significant public health burden in developing countries. The mathematical modeling framework is based on differential equations and dynamical systems. An emphasis of this study is the interplay of biological, environmental and socioeconomic factors that shape the complex pattern of cholera epidemics. Particularly, the effects of intrinsic bacterial growth, the contributions of different transmission pathways, and the impacts of disease awareness and health education programs are discussed. Both analytical and numerical results are presented.

Biography

Jin Wang received his BS and MS in 1998 and 2000, respectively, from the University of Science and Technology of China, and his PhD in 2004 from the Ohio State University. He was Assistant Research Professor of Mathematics at Duke University from 2005 to 2007, and Assistant/Associate Professor of Mathematics at Old Dominion University from 2007 to 2014. He has been Professor and UNUM Chair of Excellence in Applied Mathematics at the University of Tennessee at Chattanooga since 2014. Dr. Wang's main research areas include mathematical biology, numerical analysis, and computational fluid dynamics. He has more than 80 peer-reviewed journal publications, and his research has been continuously supported by NSF, NIH and several other funding agencies.

Date: 19 April 2022 (Tuesday)
Time: 9:00-10:00 (Hong Kong Standard Time GMT +8)
Venue: Online Talk via Zoom (Meeting ID: 953 2499 0966)
Speaker: Prof. Jin Wang, University of Tennessee at Chattanooga
Host: Dr. Yijun Lou, The Hong Kong Polytechnic University
Click to join:
https://polyu.zoom.us/j/95324990966?pwd=Umh1U3ZteTNnclA0ejdWbm84RTUyQT09

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* * * ALL ARE WELCOME * * *

For enrolment, please send your name and email to wai-yan.moon@polyu.edu.hk on or before 18 April 2022