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# *Graduate Mathematics Seminar*

## Mathematical Modeling of Infectious Diseases

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*Case Western Reserve University*



**Abstract:** Mathematical modeling and analysis of problems originated in biological and life sciences, in particular (i) modeling of infectious diseases, and (ii) developing optimal strategies to control diseases in public health practice, is of fundamental importance to both scientific research and health policy. In this talk, I will mainly talk about major public health problems arising from antimicrobial drug resistance in hospitals and COVID-19 in local community settings (hospital and university). The scope of mathematical models involves ordinary differential equations (ODEs), partial differential equations (PDEs), stochastic differential equations (SDEs), and individual-based modeling (IBM).

*When:* Monday, April 26, 2021, 6:00 – 7:00 pm

*Where:* Zoom

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