

Special Issue on **Optimization and Decision-Making in Controlling Infectious Diseases**



CALL FOR PAPERS

Continuous threat of existing infections and frequent emergence of new pathogens pose serious challenges to public health. Several control measures such as vaccination, antibiotics, social distancing, insecticides, and bed nets are put in line by public health authorities, once emergence of epidemic is identified. Whether it is allocation of vaccines of limited supply or school closures in a city, optimized decision-making under uncertain epidemiological characteristic is essential to mitigate the infection or control the outbreak. Decision-making even becomes potentially more complex under factors such as human interference in interventions, like in voluntary vaccination campaigns, and continuous pathogen evolution. So, designing strategies of targeting intervention measures that can largely reduce the transmission potential to group with the highest risk of infection is an optimization problem under a broad class of assumptions.

This special issue opens up a platform for researchers to showcase their original work focusing on new advances in modelling and optimization in the framework of infectious disease control. The special issue focuses on both mathematical and computational approaches highlighting fascinating results related to its scope. The discussions and results might benefit researchers and public health communities in both technical and implementation practices. The editorial committee welcomes original research papers as well as review articles that target advanced optimization techniques to address issues in disease control and mitigation.

Potential topics include but are not limited to the following:

- ▶ Decision-making studies related to designing intervention strategies to control and mitigate infection
- ▶ Analysis of effectiveness of the intervention strategies
- ▶ Optimization of network epidemic models to control disease transmission
- ▶ Methodological studies (algorithm-based) on optimization techniques applied to control of disease
- ▶ Optimized management of emergence of an outbreak
- ▶ Modelling on individual behavior towards vaccination and treatment choice
- ▶ Modelling optimal strategies of antibiotic usage to reduce drug-resistance

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jopti/odcd/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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