



BioMed Research International

Special Issue on
Computational and Theoretical Analysis of Human Diseases Associated with Infectious Pathogens

CALL FOR PAPERS

Mathematical models and computer simulations are useful experimental tools for building and testing theories, assessing quantitative conjectures, answering specific questions, determining sensitivities to changes in parameter values, and estimating key parameters from data. Understanding the transmission characteristics of infectious diseases in communities, regions, and countries can lead to better approaches to decreasing the transmission of these diseases. In the recent past, there has been a remarkable development in the areas of epidemiology and disease modelling. The demand for accuracy in the predictions has led to the development of sophisticated mathematical models including delay differential models, stochastic models, compartmental models, and age and spatial structured models.

In the present special issue, we would like to bring together papers covering a wide range of scientific interests concerned with the dynamics of human diseases associated with infectious pathogens. We aim to provide a platform for the discussion of the major research challenges and recent achievements. Appropriate mathematical models with new insights, relevant analysis, and validation with the help of numerical simulations are most welcome.

Potential topics include, but are not limited to:

- ▶ Optimal control of diseases
- ▶ Global bifurcation analysis
- ▶ Stochastic and deterministic models
- ▶ Delay differential models
- ▶ Applications of fractional differential equations to infectious diseases
- ▶ Modelling of human diseases associated with infectious pathogens
- ▶ Numerical methods

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/infectious.diseases/ctadid/>.

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