

# Aplikasi non-cooperative game theory dalam model evolusi virulensi = An application of non-cooperative game theory in evolution of virulence model

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## Abstrak

Evolutionary Game Theory (EGT) dalam model evolusi virulensi merupakan salah satu aplikasi dari non-cooperative game theory. Model evolusi virulensi dapat dinyatakan dalam bentuk sistem persamaan diferensial biasa. Dalam Evolutionary Game Theory (EGT) terdapat dua konsep, yaitu Evolutionary Stable Strategy dan Replicator Dynamics yang masing-masing berperan dalam mekanisme seleksi dan mekanisme mutasi dalam proses evolusi. Evolutionary Stable Strategy dan Replicator Dynamics dapat digunakan untuk menggambarkan dan memprediksi hasil interaksi antara organisme patogen dan sel inang.

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Evolutionary Game Theory (EGT) in the model of evolution of virulence is one application from a non-cooperative game theory. The model of evolution of virulence can be expressed in the form of a system of ordinary differential equations. In Evolutionary Game Theory (EGT) there are two concepts, namely the Evolutionary Stable Strategy and Replicator Dynamics, each of which plays a role in the mechanism of selection and mutation mechanism in the process of evolution. Evolutionary Stable Strategy and Replicator Dynamics can be used to describe and predict the results of interactions between pathogenic organisms and the host cells.