

$$\dot{x}_i = \sum_{j=1}^n x_j \underbrace{f_i(\mathbf{x})}_{\text{orange dashed}} \underbrace{q_{ji}}_{\text{blue solid}} - x_i \bar{f}$$

Replicator-Mutator equation

Neglecting mutations

Neglecting frequency  
dependent fitness

$$\dot{x}_i = x_i \underbrace{f_i(\mathbf{x})}_{\text{orange dashed}} - x_i \bar{f}$$

Replicator equation

$$\dot{x}_i = \sum_{j=1}^n x_j f_i \underbrace{q_{ji}}_{\text{blue solid}} - x_i \bar{f}$$

Quasispecies equation

$\dot{x}$  Frequency of type i

$q_{ji}$  Mutation probability from j to i

$\bar{f}$  Average fitness of the population

$f_i$  Frequency independent fitness of type i

$f_i(\mathbf{x})$  Frequency dependent fitness of type i