

## My original a\_ij adaptive dynamics model

This model investigation is hoped to reconstruct the behavior of my  $\Delta a_{ij}$  model (in my dissertation).

In this model, unlike in the standard adaptive dynamics ODE models, we apply mutations directly to the entries of the Lotka-Volterra interaction matrix. The dynamics of this process is not smooth, and has to be evaluated directly by integrating the GLV population dynamics, rather than by deriving a differential equation for the evolutionary dynamics of matrix entries.

$$\frac{dX_0}{dt} = (X_0 a_{0_0} + r_0) X_0$$





