**Model modification – Cinema**

* Making population sizes flexible:

-offspring are now assigned based on consumed resources, not based on relative fitness. Offspring number is drawn from a Poisson distribution, with mean µ as calculated below.

-Max. population size Nmax to prevent overflow, this functions as buffer for output generation. If this threshold is crossed during reproduction, individuals are deleted at random until the population size is at the maximum (Ideally, α and β are chosen such that this maximum is hardly ever reached). I am uncertain about a few implementation details. Dead individuals are currently specified by setting food = -1. This could also be used for individuals in the buffer, but then networks should also be erased to remove data. Should dead individuals be sorted to the end? Also, should this buffer be added only for generating the output, or be carried during the entire simulation?

-Simulation exits when population size reaches 0, and extinction occurs.

* Introduce density dependence via Beverton-Holt model:

Offspring number ,

where Wi is the amount of resources consumed, and G is calculated as follows:

, where N is the current population size, and α and β are parameters (e.g. α = 0.0001 and β = 0.5.). These parameters are population specific for predators and prey.

* New parameters are thus α, β and Nmax, for both predator and prey population.