

Description of the master project of Petr Kouba

December 18, 2018

The purpose of this master thesis is to investigate the role of age structure in epidemiology. The student will examine basic epidemiological model with accounting for age dependence in the model parameters (age dependent mortality, reproductive rate, susceptibility to infection ...). Using simulations of those models student will investigate how different parameters and their age dependence will affect the resulting demography of the population. In order to have biologically realistic estimates of the parameters student will analyze data measured in populations of waterfleas (*Daphnia magna*). In case any spectacular age dependent pattern will be observed in the data, the simulations might provide a hint to find an evolutionary explanation for that particular pattern.