Swimming model:

Get swimming calc part out of Particle

Survival model:

How particles are counted? All particle traces

Set isDead to true if survival change is 0. Age = currenttime – starttiime

PTMTraceOutput or ParticleTrace record every particle insert time?

Survival calculation for every time step or until reach node? Maybe every time step is better.

When at the end of time step to set isDead variable. If it is dead, the position will not be calculated, please see UpdateXYZPositon line 452

Particle class age = getCurrentParticleTime – InsertionTime

In updateXYZPosition in Particle, particle age gets to updated. In MainPTM a particle position will be updated first. So the positon will be updated, now question is when to call survival.

The survival check should be put into upDateXYZPosition, so that survival can be checked in the sub-timestep and not depends on user defined time step.

UpdateXYZPosition only works with channel , what if Reservoir etc.?

Barriers, probability \* % in statistics how we calculate probability for % particle passage