To gernerate an uniformly distributed random number in the interval , we use the Mersenne Twister pseudorandom number gernerator.

(for details and code example, see <https://en.wikipedia.org/wiki/Mersenne_Twister>)

The Phagocytosis rate (in percentage per hour) serves as an input value fort he simulation.

E.g. if the Phagocytosis rate is 63% per hour, set , if our simulation step distance shall be 1 minute.

In the Monte-Carlo Step, we now set

This means, that amoeba is now filled with funghi for the next Monte-Carlo Steps. Here is the digestion time, which is given as an input value.