BSim2.0 Code — Things we can change

to other ← files

Class Capsule Bacterium

Parameters we can change:

L_max : maximum cell length

L_th : cell division threshold length

K_int : internal spring constant

K_wall : spring constant of cell-wall contact (overlap)

K_cell : spring constant of cell-cell contact (overlap)

K_filial : spring constant of end-to-end attraction of cells (closest ends)

$k\_longfilial$: spring constant of end-to-end repulsion of cells (furthest ends)

$K\_sticking$: spring constant of side-to-side attraction of cells

$K\_wallstick$: spring constant of cell-to-wall attraction

$range\_filial$: maximum distance the filial/long filial force acts

$range\_sticking$: maximum distance **the sticking force acts**

$range\_wallstick$: maximum distance the wall sticking force acts

extends →

Class ChenBacterium / Bacterium

Useful functions:

setK_growth (double K_growth)
↳ allows you to set growth rates of individual cells

SetElongationThreshold (double len)
↳ allows you to set elongation threshold of individual cells

There are no parameters we can change in this file.

class Neighbour Interactions

Parameters we can change:

simDimensions : the x, y, z dimensions of the simulation environment (μm)

growth_stdv : standard deviation of the growth rate

growth_mean : average growth rate

length_stdv : standard deviation of the elongation threshold

length_mean : average elongation threshold (μm)

Sim.setSimulationTime (#) : Simulation length in seconds

imageExporter.setDt(#) : how often it outputs a frame