

Modelling Team Update

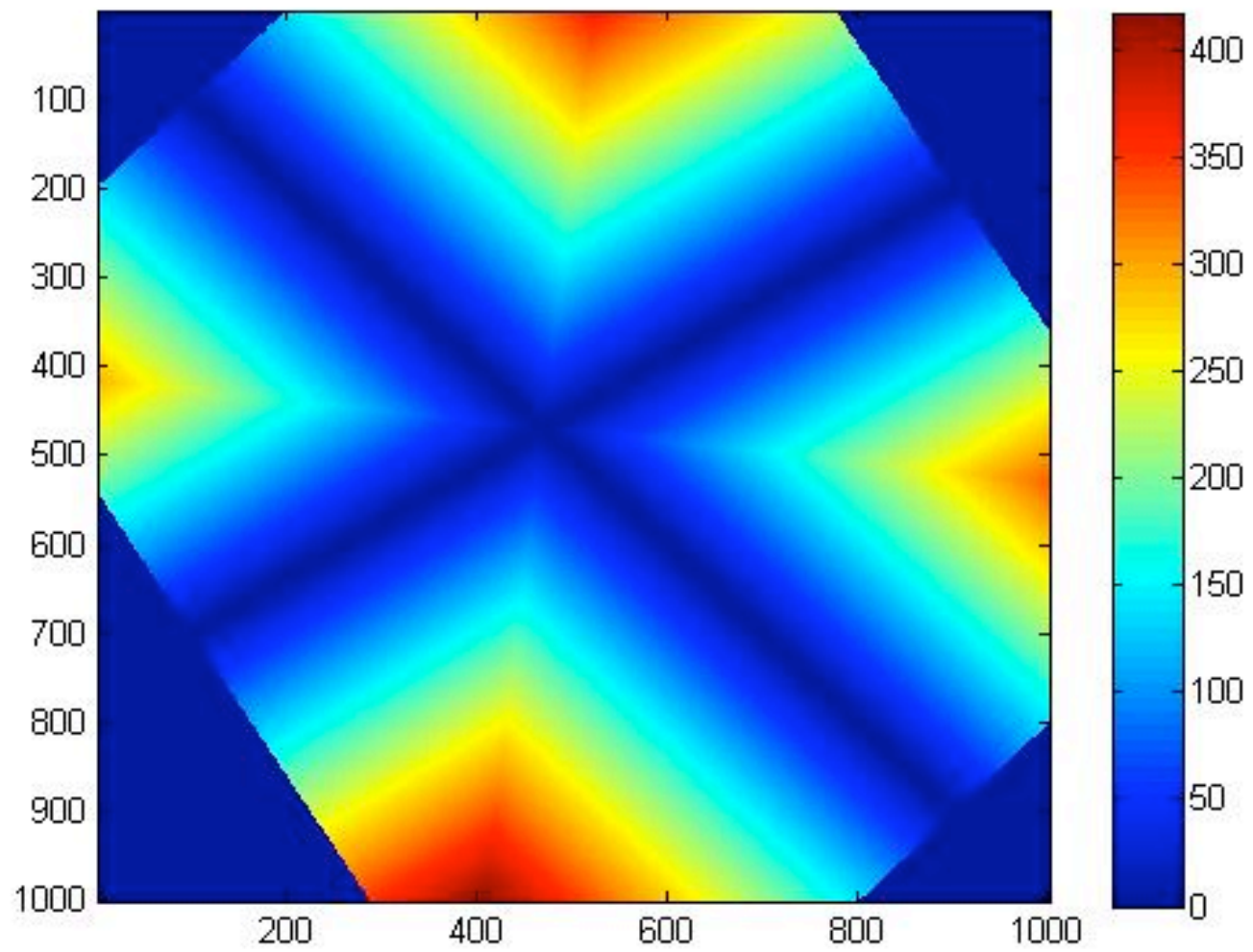
6th August

Progress

- Implemented wrapping boundaries
- Written a class that allows parameters to be altered whilst the program is running
- Preparing to run batch simulations
- Blue crystal
- Further parameters researched
- Continued “Java for Sophies[©]” course

Wrapping Boundaries

- Boundary class was more difficult to implement than anticipated
 - But this has now been resolved.



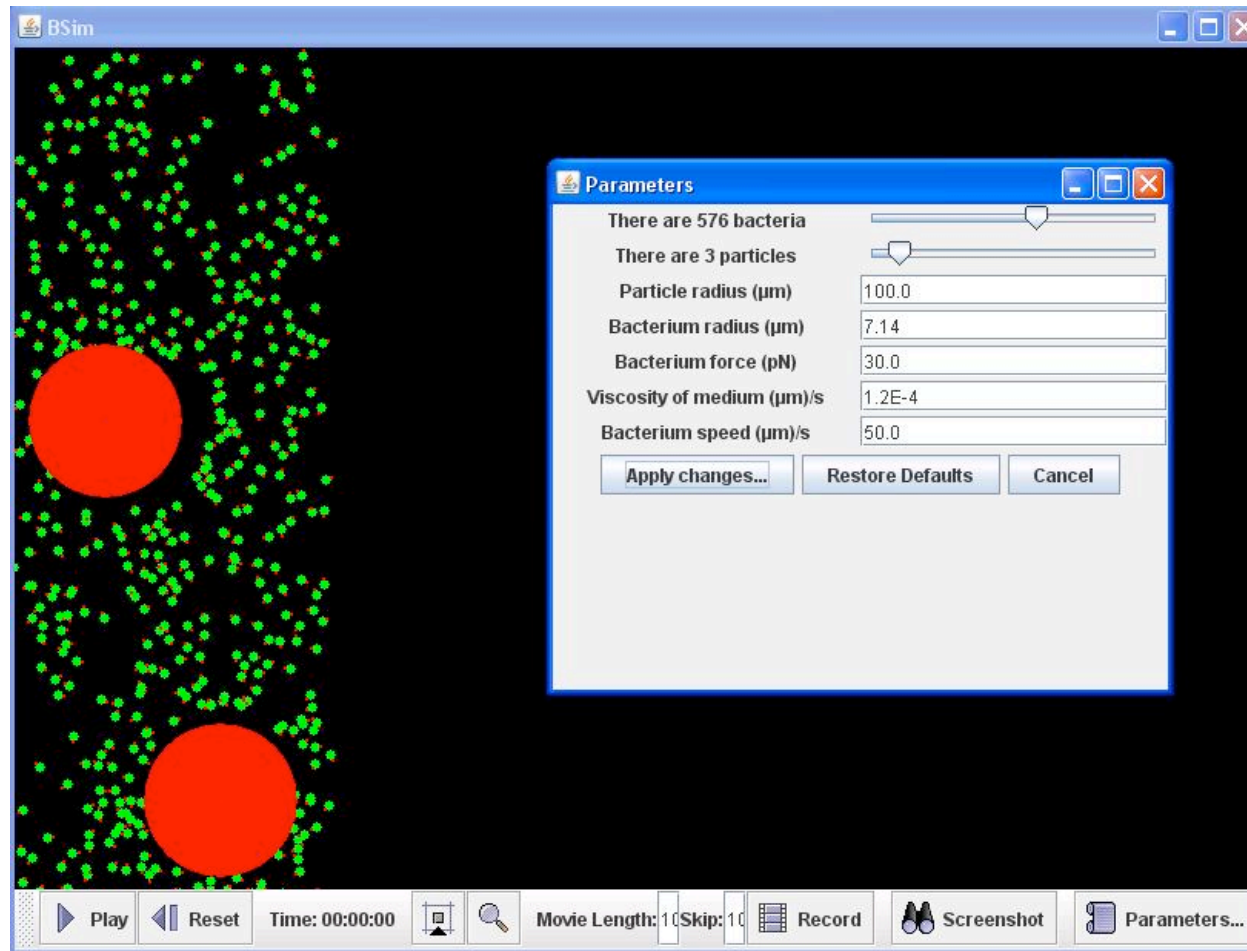


shardcore

Parameter

- Parameters are currently 'hardwired'
- Added a GUI
- Parameters can now be altered whilst the program is running
 - Easier for testing
- Leading towards batch simulations

Parameter GUI



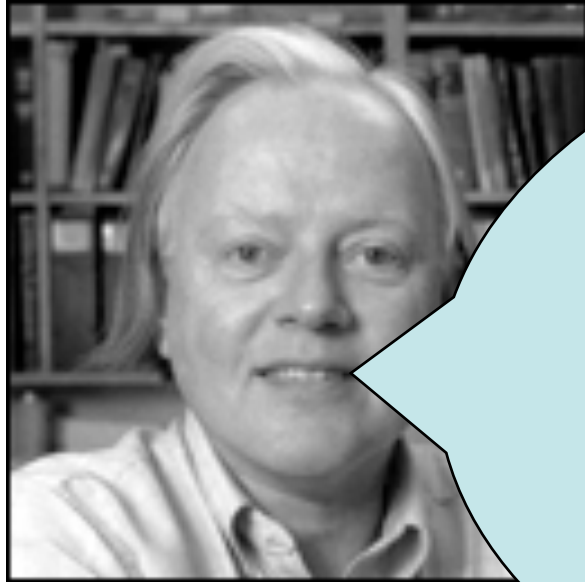
Blue Crystal

- New supercomputer facility opened in July.
- Costing \$14 million
- Capable of 37 trillion calculations per second.
 - Normal computers can do
- Needs Mario to set up an account.



Parameters

- Verified reliability of previously researched parameters
- Personal communication with Howard Berg (University of Harvard) regarding Bidirectionality of tumbling
- Started researching parameters for GRN dynamics.



“The direction is random, more or less, but there is a slight forward bias. It varies from tumble to tumble. The turn-angle distribution peaks at 68 deg rather than 90 deg.

Tumbles turn out to be more complex than believed in 1972. Motors switch independently, and a tumble can occur if one or just a few motors change their directions of rotation. Tumbles are short, as judged by the tracking microscope, because they involve filament physics rather than motor physics: a transformation in polymorphic form, following motor reversal, from normal to semi-coiled.”

Next week...

- Tom returns
 - he can run through all the changes of the last 2 weeks
 - Prepare for running batch simulations for statistical analysis
- Charlie leaves, party??

Project Names

