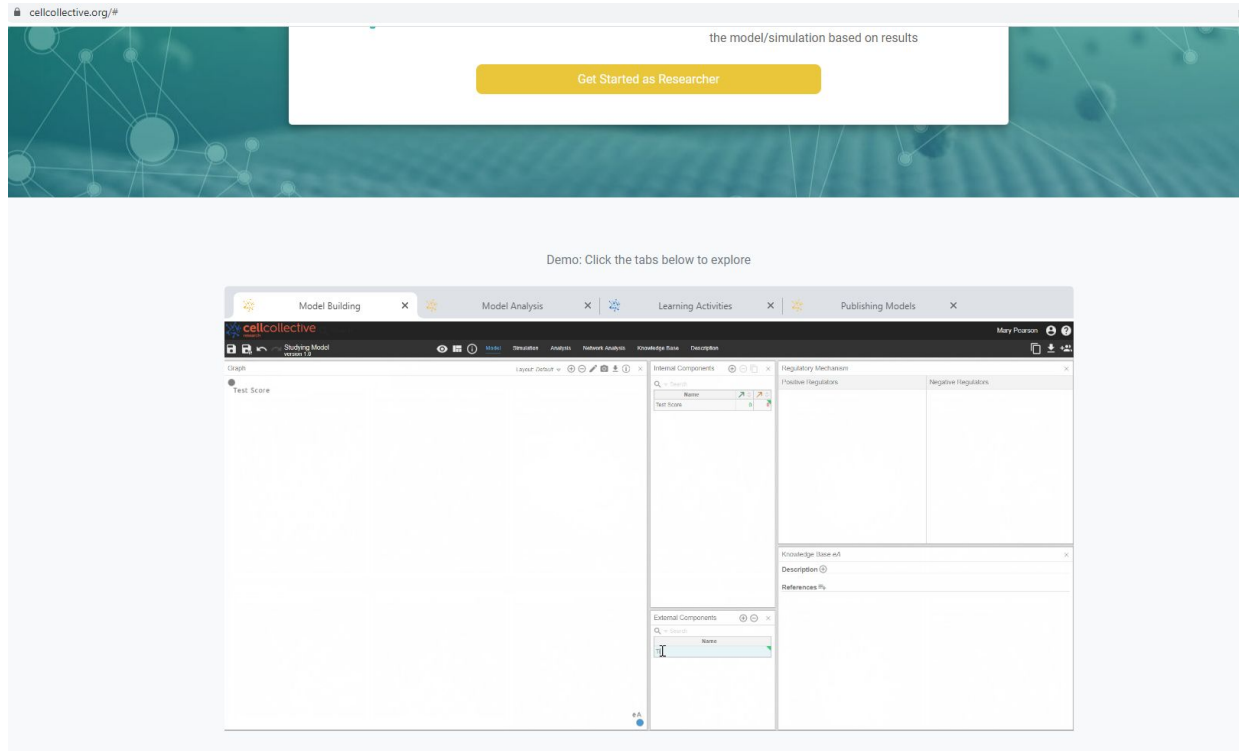


A) The link to the Demo of Cell Collective



Screenshot of the interactive demo to build and analyze logical models in Cell Collective. <https://cellcollective.org/#>

B) The link to the YouTube Tutorial of Cell Collective

youtube.com/watch?v=Zu5_MtsMu2c

Search

cellcollective
research

Support Login Sign Up

Interactive Modeling of Biological Networks

Explore and simulate a variety of existing models. Build and analyze your own models.

Try without Registration

1,767,633 Simulations

1,562 Models

86,680 Components

117 Institutions

0:07 / 3:21

Introduction to Cell Collective

Helikar Lab
2 subscribers

Subscribe

1

Share

Download

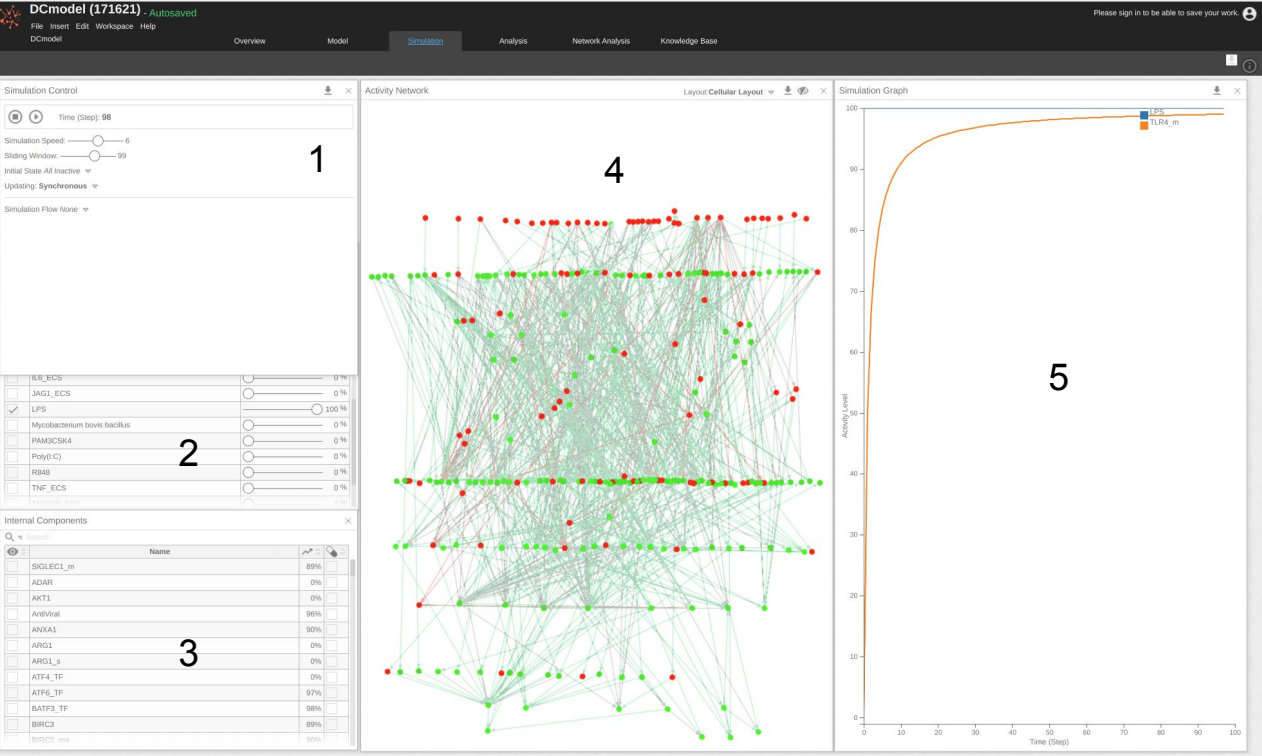
Clip

Save

Screenshot of the introduction to Cell Collective in YouTube.

https://www.youtube.com/watch?v=Zu5_MtsMu2c

C2) Example of the Cell Collective environment- Simulation panel



1-To simulate DC model: the panel includes speed, steps, stop and start buttons.

2-To chose the external component and percentage of activity as inputs : example of LPS, with 100% activity.

3-To chose internal components to visualize on the graph (oeil button), to activate or inhibit (pill button). Example provided is TLR4, receptor of LPS.

4-Activity network in real time showing active and inactive nodes. The green indicates active and red, inactive ones.

5-Simulation graph for visualization of the simulation: example of TLR4 active under LPS environment, legends provided on the top right corner.

C3) Example of the Cell Collective environment- Analysis panel

The screenshot displays the DCmodel software interface, specifically the Analysis panel. The interface is divided into several sections:

- 1**: Experiments list on the left, showing 'New Experiment 1' with a 100% completion status and a creation date of 1/27/2023.
- 2**: Experiment Settings panel at the bottom left, showing 'Completed: 100%' and 'Elapsed: 2s'. It includes fields for Name, Number of Simulations, Environment Default, Initial State, Output Range, and Simulation Flow.
- 3**: External Components table in the top middle, listing various components like Alum, BetaGlucans, and COVID19, each with an activity range slider. The COVID19 slider is set to 100%.
- 4**: Internal Components table in the bottom middle, listing components like SKGLECL_in, ADAR, and AKT1, each with a pill button for activation or inhibition.
- 5**: Activity Relationships Graph in the center, a scatter plot showing the relationship between COVID19 (Activity Level) on the x-axis and Activity Level on the y-axis. A cluster of points is visible at high COVID19 activity levels.
- 6**: Graph Components table on the right, listing components like Poly(I:C), PPP1R15A, and PTGS2, each with X and Y axis selection buttons.

1-To create a file for new experiment

2-To chose experimental settings: name of the file, number of simulation, environment, initial state, range of simulation. Data can be downloaded using the arrow button.

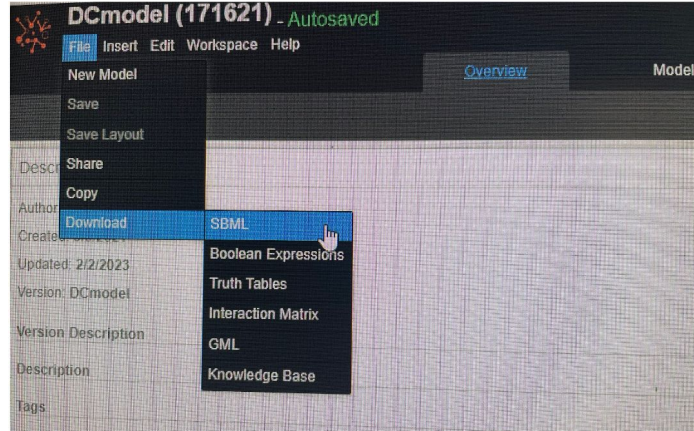
3-To choose external component and the desired activity level: example of Covid activity range 0-100% while all others are at 0.

4-To choose one or multiple internal components to activate or inhibit using the pill button.

5-Activity relationship Graph for visualization: example of NRP1 receptor for Covid.

6-In the graph components, choose what to display in the graph for x and y axis

C5) Example of the Cell Collective environment- Download SBML-qual file



Screenshot of the Cell Collective platform that allows the users to download the DC model's SBML-qual, Boolean expressions, truth tables, interaction matrix, GML, and knowledge base files.