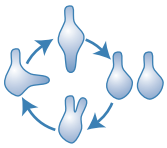


# WholeCell

Model • Simulation • KB • Viz

## Whole-cell model

A central challenge in biology is to understand how complex phenotypes emerge from the molecular level. “Whole-cell” models promise to tackle this challenge by integrating heterogeneous molecular data into predictive models. We present a whole-cell model of the bacterium *Mycoplasma genitalium* which (1) describes the life cycle of a single cell from the molecular level and (2) accounts for the specific function of every annotated gene product.

## WholeCellKB

Whole-cell models require comprehensive molecular data. We developed WholeCellKB, a web-based software program, to collaboratively curate training data for whole-cell models.

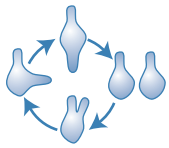
## WholeCellViz

Whole-cell models generate detailed predictions of cellular behavior. We developed WholeCellViz, a web-based software program, to visually explore whole-cell model predictions.

## Availability

The whole-cell model, WholeCellKB, and WholeCellViz are freely available open-source at wholecell.stanford.edu

wholecell.stanford.edu • mcovert@stanford.edu

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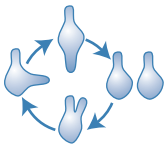

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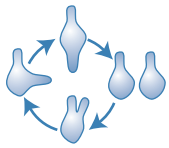

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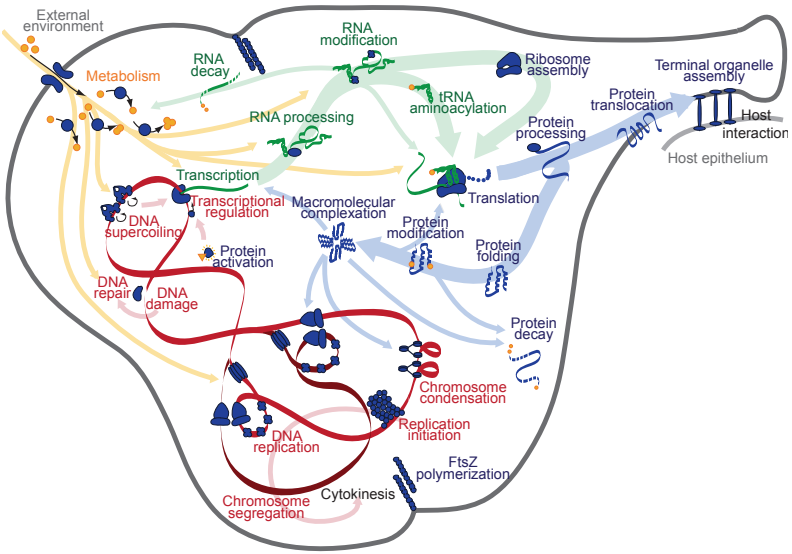


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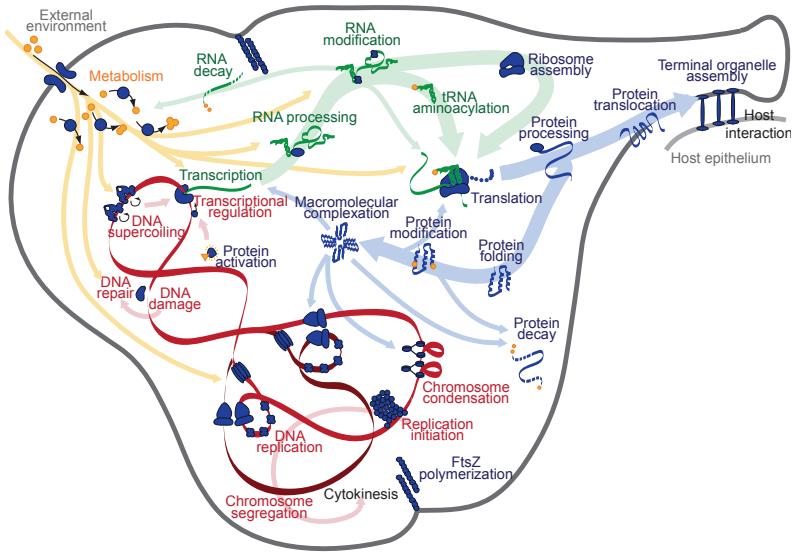



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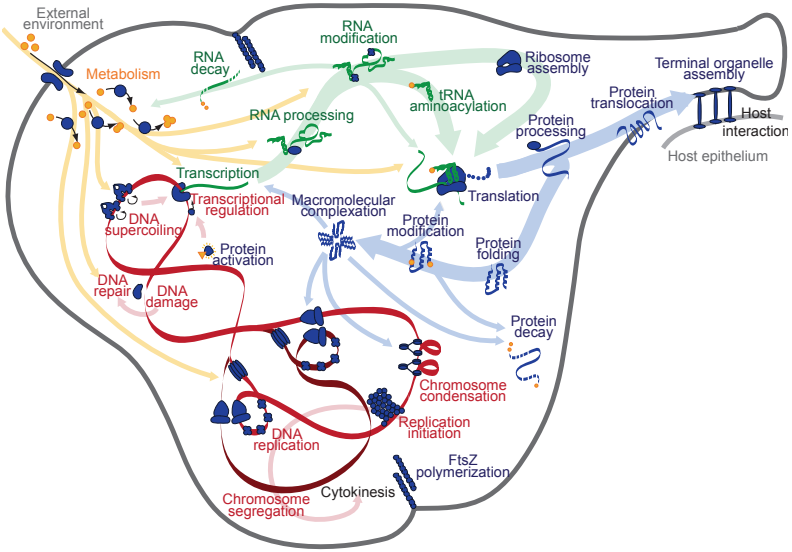



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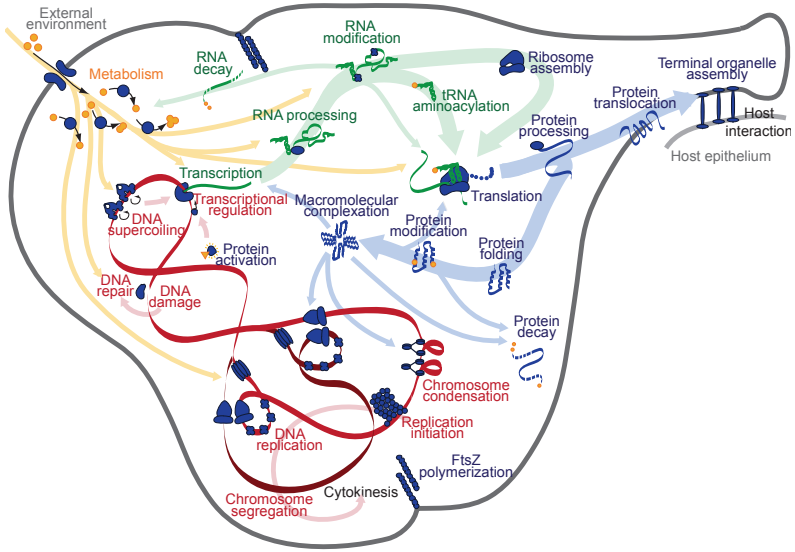



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