

Enable cell biologists to think more deeply about the problem they are trying to solve.

- Virtual cell biology laboratory
- Assemble pieces, parts
- Construct modules
- Cell behaviors
- Functional aspect
- Bridging the gap between computation and experiments
- Simulations
- Grand challenge
- Assemble something that wouldn't otherwise be assembled
- Accelerate
- Deriving cell behavior from first principles
- Can't do now: Coupling simulations that look at different scales of space and time
- Build a system that allows representation of whole cells so that within that Google cell you can operate across all of the spatial and temporal scales that represent the functions of the cell in its ecosystem.
- Build an artificial cell complete with structural, temporal and spatial...
- In silico representation of everything that we know
- Build a scaffold (framework) that enables the community to assemble all knowledge about a cell from molecular structure to its entire organization... crack the cell nucleus ... enable work on all time scales from picoseconds to lifetimes... gives control of processes in the cell...
- Build a symbiotic environment where knowledge would accumulate...
- Multi-scale
- Build a nucleus...an asset to build on

- Plug & play models
- Examples as sidebars
- M.E.: Costco model. Go shopping. Take data out, use your own staff & codes to build a story. Not very useful.
- Use tools on site to enrich database. Leave a trail.
- Framework and tools facilitate...
- Resource of resources...
- Mega resource...
- Enable inspectability...
- Perturbation for experiments...
- Resource should be sustainability.