Slides, videos, links and more:
https://github.com/physicell-training/01-Welcome-to-training

Lesson x: Module title

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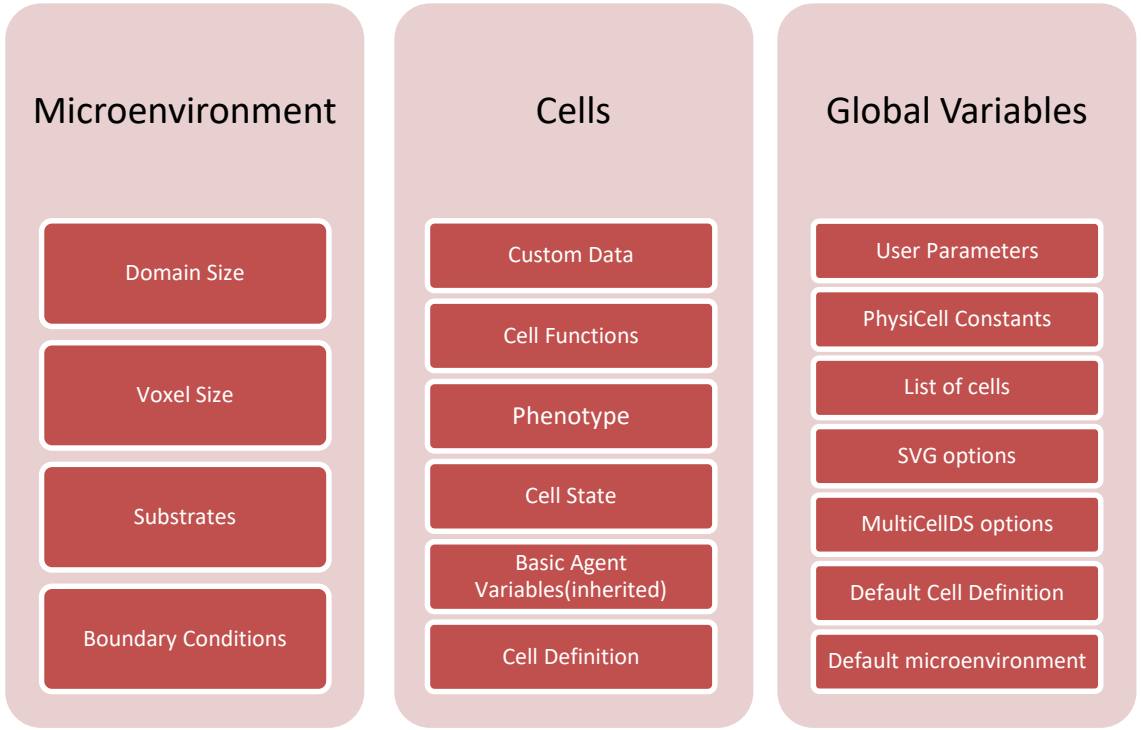
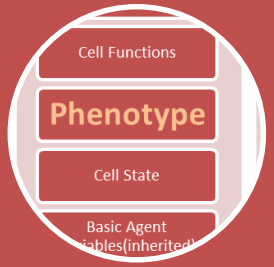
PhysiCell Project

last updated: August ?, 2019

Context


Microenvironment
Domain Size
Voxel Size
Substrates
Boundary Conditions
Cells
Custom Data
Cell Functions
Phenotype
Cell State
Basic Agent Variables(inherited)
Cell Definition
Global Variables
User Parameters
PhysiCell Constants
List of cells
SVG options
MultiCellDS options
Default Cell Definition
Default microenvironment

Context



Phenotype

- Motility
- Cell Cycle
- Death
- Mechanics
- Geometry
- Molecular
- Volume

Background

- Cells can actively move through their environment by motility.
- Mathematically, this is often modeled as a biased Random walk.
- Cells may ….

Mathematics: Variables and Definitions

- **Migration bias direction:** plain English description
- **Migratation bias:** plain English description …
- **Migration speed**
- **(Mean) persistence time**
- **….**

Mathematics: Assumptions

- Okay to write "no extra assumptions"

Mathematics: Models

- How often cells change motility direction
- How motility direction is chosen
- How motility velocity is computed
- How motility velocity is added to overall velocity

Demonstration

- Describe the nanoHUB app for this.
- Hyperlink and QR code.
- Any special instructions. (We'll do a generic "how to use a nanoHUB app" in another slide deck.)
- Show a screenshot or two, and a sample output.

- We encourage you to open this model now while reading about its parameters.

Class structure: Data

Class structure: Methods

Example

```
dfdf
df
dfdf
dfd
```

Caveats, notes, and best practices

- Okay to write "no extra notes"

Next steps

Super fast: Please proceed to 02
(How to use a PhysiCell App on nanoHUB)

Intermediate: Please proceed to 02
(How to use a PhysiCell App on nanoHUB)

Full training: Please proceed to 02
(How to use a PhysiCell App on nanoHUB)

link: https://www.github.com/PhysiCell-Training/....

More materials: https://github.com/physicell-training/master-list

Credits

Module Planning: Paul Macklin

Slides: Paul Macklin

Recording: Paul Macklin

Post-production: Paul Macklin, Drew Willis*, Kali Konstantinopoulos*

Microapps: not applicable

* denotes undergraduate researcher

Funding:

PhysiCell Development:

- Breast Cancer Research Foundation
- Jayne Koskinas Ted Giovanis Foundation for Health and Policy
- National Cancer Institute (U01CA232137)
- National Science Foundation (1720625)

Training materials:

* Administrative supplement to NCI U01CA232137 (Year 2)