



VANDERBILT  
UNIVERSITY

# The U54 Vanderbilt Center for Cancer Systems Biology is Hosting a Workshop:

Join us! *Programming Experience  
Not Required!*

## Computational Approaches to Study Cancer Heterogeneity August 21-22, 2019

### August 21, 2019 (9:00 AM-5:00 PM)

- Ken Lau, "Understanding cell phenotype trajectory analysis with **pCreode**"
- Carlos Lopez, "Modeling cell populations and signaling processes with **PySB**"
- Paul Macklin, "3D cell simulations with **PhysiCell** and **NanoHUB**"
- Christian Meyer, "Drug synergy with **MuSyC**"

### August 22, 2019 (9:00 AM-12:15 PM)

- Jonathan Irish, "Cyborg learning: Data science tools for cancer biologists (**UMAP**, **t-SNE**, **FlowSOM**, **MEM**, and **PCA**)"
- Alex Lubbock, "Cell response to treatments with **Thunor**"

*Space is limited!*

### Register Now!

This workshop is designed to provide a basic foundation of key computational approaches for studying cancer heterogeneity. Our trained instructors will lead you through comprehensive overviews and hands-on demonstrations of fundamental computational tools.

*Need an introduction to programming before the workshop?* Contact Dr. Amanda Linkous ([amanda.linkous@Vanderbilt.Edu](mailto:amanda.linkous@Vanderbilt.Edu)) to register for an **introductory software carpentry workshop** on **August 19-20, 2019**.



ACCURE

Advanced Computing Center  
for Research and Education