

## **Module 2: Assignment**

1. Read Ratcliff et al, PNAS, 2012 ([hoppols.gatech.edu/pages/Resources/Papers/PNAS-2012-Ratcliff-1595-600.pdf](http://hoppols.gatech.edu/pages/Resources/Papers/PNAS-2012-Ratcliff-1595-600.pdf)) and write 2-3 paragraphs explaining the point of the paper, what was done, and what you might do to improve the study.
2. Sequence of pics of yeast at different transfers (each day) for fast and slow settling (you should already have these)
3. Plot calibrated area of clusters vs time (use Matlab/Python, Image J). How are you going to calibrate the microscope (hint, image object of known size)?
4. Capture images/timelapse of cell column settling (vortex all tubes: ace2/AcE2\_C1W8\_fast, ace2/AcE2\_C1W8\_slow, and C1W3). Also, plot cell column height vs. time (after 15-30 mins).
  - a. Do this in the test tubes.
  - b. Get a time lapse program to save pictures of your column settling.
  - c. Include a ruler next to the setup for scale.

### **EXTRA CREDIT (and for the grad students)**

Cluster budding and division! Catch this on time lapse with phonescope (example video in Dropbox)