Lab 5: Vesicle transport

Team info

Lab section: C01 (12-3 PM) | C02 (3-6 PM)

Table number: \_\_\_\_\_\_\_\_\_\_\_

Team name: \_\_\_\_\_\_\_\_\_\_\_

Journalist: \_\_\_\_\_\_\_\_\_\_\_

Data Interpreter: \_\_\_\_\_\_\_\_\_\_\_

Critic: \_\_\_\_\_\_\_\_\_\_\_

Checker: \_\_\_\_\_\_\_\_\_\_\_

[This is a shell of a blank writeup. Strip out the verbiage, including this sentence, and replace it with your own.]

# Journal

This corresponds roughly to Materials and Methods in a scientific paper. It won’t have all the technical detail of an academic paper (for instance, you don’t need to report what kind of microscope you used), but it should have enough information that *the reader can understand exactly what you did and how you did it*. It is particularly important to explain any deviations from the lab instructions, or anything not explicit in the lab instructions.

*For instance, this week* you would probably describe how you acquired vesicle position data (since some people used automated tracking, while others did it by hand).

# Data and Interpretation

Your findings, displayed in an easy-to-understand form, with the important features explicitly described and explained.

We are mostly concerned that you display your data to us in a comprehensible and elegant way. *You* can decide exactly how to do so, but we often offer hints or suggestions.

*This week, for instance*, you should probably include

1. Plots of the mean and mean-square displacement as a function of time, in x and y, for the diffusing vesicles
2. Report the diffusion coefficient extracted from the plot of <x2>
3. Table or plot of the average speeds of the vesicles undergoing active transport
4. An explanation of how you calculated the drag coefficient for the vesicles, the power used during transport, and the number of ATP/s consumed on transporting a single vesicle.

# Evaluation

Deeper reflection on what your results mean. Do they make sense? Are they consistent with other things you know?

*This week, for instance*, you might comment on

1. Does the ATP consumption you calculated seem reasonable? At a minimum, it should be small compared to the total metabolic consumption of a typical plant cell.

**Make sure you answer all the questions from the lab page somewhere in your writeup!**