

BME 42-620 Reading Assignment 3

Assigned: October 11, 2011

Due: Oct-20-2011 5PM (in class or at MI 401)

A. Overview

The main aims of this reading assignment are:

- To introduce the concept of cell motility.
- To introduce certain engineering applications of molecular motors.

B. Instructions

B.1 Cell Motility

You are required to read the following article, which you need to download from the journal website through the campus network of CMU.

1. Pollard TD & Borisy GG, Cellular motility driven by assembly and disassembly of actin filaments, *Cell*, 112:453-465, 2003.

Write a summary (two pages maximum) that outlines main messages of this article.

You may also find the following (older) reference informative. However, you are not required to read it.

- Lauffenburger DA & Horwitz AF, Cell migration: a physically integrated molecular process, *Cell*, 84:359-369, 1996.

B.2 Engineering Application of Molecular Motors

You are required to read the following article, which you need to download from the journal website through the campus network of CMU.

1. Goel A & Vogel V, Harnessing biological motors to engineer systems for nanoscale transport and assembly, *Nature Nanotechnology*, 3:465-475, 2008.

Write a summary (two pages maximum) that outlines main messages of this article.

B.3 Report submission

Reports should be typed and submitted in printed copies. We cannot accept reports in other forms, including email attachments. Late reports cannot be accepted. Exception will only be considered on a case-by-case basis.

B.4 Group presentation

Two groups will be asked to give presentations on **Oct-25-2011**. One group will present on the topic of protein folding. The other group will present on the topic of fluorescence microscopy. Each group will have 30 minutes for presentation and 5-10 minutes for questions.

C. Report format

Each summary, including references, must not be more than 2 pages. Thus the total report must not be more than 4 pages.

Page size: letter

Line space: single

Page margins: 1 inch (top, bottom, left, right)

Font size: 12 point fonts for the main text; 10 point fonts for listed references

D. Some general guidelines on preparing a reading report

1. The single most important guideline regarding writing your report is to think independently and use your own words. Avoid literal replication of words from references since it could run the risk of unintentional plagiarism. If you must cite original text, mark your citation using quotation marks.
2. Organize your report into sections and use section titles. This often substantially improves readability.
3. Avoid long paragraphs. Instead, try to divide them into logically coherent short paragraphs.
4. Pay attention to details. Be sure to cite your references properly. If you are not sure how to make citations, follow the format used in any journals you are familiar with. Or you can ask the instructor for assistance.