Bio322: 02- Tutorial and assignment

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Instructions: The tutorial part is conducted in class and evaluated. The **assignment** is to be handed in to the T.A. **as a HAND-WRITTEN hard copy A4 sheet.** PLEASE cite your sources. Avoid copy-paste. If help from colleagues has been sought mention it. Originality will be valued.

1 Tutorial

1. You read a paper about the mass of *E. coli* measured using a microfluidics device. The text says "We developed a dynamic fluidic control system that enables the buoyant mass of cells as small as bacteria and as large as mammalian lymphocytes to be repeatedly measured with a suspended microchannel resonator (SMR). The SMR consists of a vacuum-packed, hollow microcantilever beam containing an embedded fluidic microchannel, and it is capable of weighing nanoparticles, bacterial cells and submonolayers of adsorbed proteins with femtogram resolution (1-Hz bandwidth)12. As individual cells transit the microchannel, a shift in the resonant frequency of the SMR is observed that corresponds to the buoyant mass of the cell." by Godin et al. Report this result from the paper in 2-3 sentences.

2 Write an essay on a single outstanding biophysics discovery

A one-page (A4) writeup which includes references. **Word limit 400 words.** What: Pick a biophysics discovery and the person(s) who discovered it. Focus on the physical principle, or the biological insight. How is it relevant in biology or physics. How: You are free to use any source- published, report, newpaper, website and even Wikipedia. However wikipedia references are not permissible. Find the original source (e.g. Nobelprize.org, Sciencemag.org, etc.). Always refer to your sources. Do NOT COPY PASTE. The plagiarism policy will be strictly implemented. Please refer to the document on WHAT IS AND ISN'T PLAGIARISM: [LINK: Fair use policy for reports]

References

1. Godin et al. (2010) Using buoyant mass to measure the growth of single cells Nature Methods 7, 387 - 390