1. Please write out three well thought out questions about the literature paper to ask the presenters (and to hand in).

2. We discussed in class measurements of the Young’s modulus of actin filaments and microtubules that give similar values of about 2 GPa. Estimate the second moment $I$ of actin filaments and microtubules. Explain the assumptions used in your estimate. How different are the second moments, and why? What is the reason for the difference in stiffness between actin and microtubules?

3. Use your estimates of $I$ from problem 2 and a Young’s modulus of $E = 2$ GPa to determine the persistence length of actin and microtubules at room temperature. How do your estimates compare to the measured values of 15 µm for actin and 6 mm for microtubules?