DNA microarrays
A discussion on pre-processing of microarray data

In groups of 2-3 discuss and find answers to the questions below

1. What do we measure on a microarray?

2. Describe the basic steps in the Technology
   - Stanford Array
   - GeneChip (Affymetrix)

3. What is a Probe Set?
   - And a Probe pair?

Normalization

1. Why do we need to normalize the microarray data?

2. What is the difference between a linear and a non-linear normalization method?

3. How does a linear normalization method affect the signal?
4. How does the Lowess normalization method work

5. How does the Qspline normalization method work

6. Which of these 3 sets of data would gain the most value from being normalized by a non-linear method?

7. What is a Gene Expression Index? When do we need this?
   - Examples of Gene Expression Index methods

8. Why is it necessary to use a statistical test to identify differentially expressed genes?