Somatic Cell Genealogies and Differentiation

Objective: To give a presentation of about 60 minutes at the end of the week covering the key aspects of integrative genomics, which is the combined analysis of data from multiple sources/levels.

The questions and contents below are meant as motivators and need not be followed. Since we give several lectures on IG, you should probably try to give a new angle in the presentation or focus on a few new and exciting publications.

**The Big Questions:**
- How many cell generations are there within an individual?
- How many mutations happen per cell generation?
- Which kinds of phylogenetic hypotheses would be of interest to test?
- How well can you infer the phylogeny for the cells of an organism?
- What are the main application areas for cell genealogies?

*Recommended literature is only meant to get you started. You might very well be able to find papers more suited for your purpose.*

Wasserstrom et al. (2008) “Reconstruction of Cell Lineage Trees in Mice” PLOS Biology 3.4.e1939-