About

- Instructor: Uri Keich
  - keich@cs, X5-7017
  - 4159 Upson Hall
- Time & space: Tue & Thu 1:25-2:40, Hollister 362
- Web pages
  - https://cms3.csuglab.cornell.edu/
- Books on reserve:
  - Genomes - T.A. Brown (also accessible via pubmed)
  - An introduction to bioinformatics algorithms - Neil C. and Pavel A. Pevzner
  - Biological sequence analysis: probabilistic models of proteins and nucleic acids - Richard Durbin et al.
- Your course grade will be the arithmetic mean of your final grade and your normalized average homework score.
Syllabus

- Biological introduction
- Pairwise sequence alignment
  - Scoring matrices, dynamic programming
- Similarity search: BLAST
- Significance analysis of local alignment
- Multiple sequence alignment
- Phylogenetic trees
- Genome rearrangements: reversal distance
- Motif finding
  - Pattern and profile based finders
  - MITRA, Gibbs Sampler, Expectation Maximization
  - Significance analysis
- Mass spectrometry
- Gene arrays
- Gene finding