

BIOINFORMATICS, GENE EDITING, AND TRANSHUMANISM

// CLASS 13

FALL 2015 / SECTION 02 / HOLLY BUCK

TODAY'S CLASS...

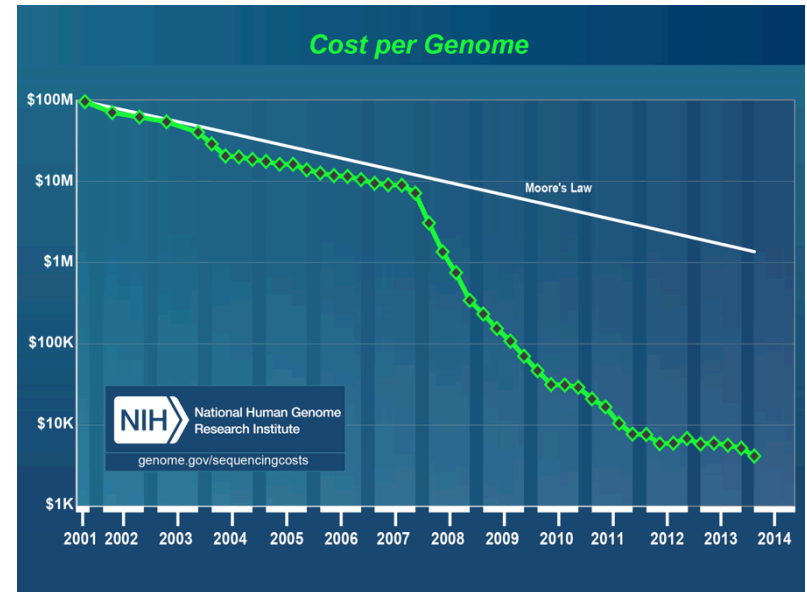
- **Course survey:**
 - Everyone likes different aspects of the course, so lecture / discussion balance will stay the same
 - Writing assignments not too popular, but required for course
 - Everyone thinks there are too many readings
 - Solution: make more optional; reader's choice which to do more often

ADVANCES IN GENE SEQUENCING

- Cost & amount
- Information technology fundamental here

<https://www.youtube.com/watch?v=u8bsCiq6hvM>

- Synthetic biology: software metaphor...
- <https://www.youtube.com/watch?v=rD5uNAMbDaQ>



CRISPR-CAS-9 UPDATES

- Cpf1 – different pair of scissors, may be even better
– smaller & simpler enzyme
- 9/18: researchers in Britain applied for permission to edit genes in human embryos, as part of a study in human development – have to be left over from IVF treatment, could be studied for only 2 weeks of development, could not be implanted for human pregnancy or clinical purpose
- <https://www.youtube.com/watch?v=2pp17E4E-O8>

POLICY EXAMPLES

- Asilomar conference on recombinant DNA
 - Paul Berg, 1975, voluntary guidelines
- Genetic Information Nondiscrimination Act of 2008
 - Passed Senate 95-0, House 414-1 (Ron Paul lone dissenter)
 - Prohibits use of genetic information in health insurance & employment

TRANSHUMANISM

- “What new things could we accomplish if we didn’t have the limitation of biology?”

DISTRIBUTION, AGAIN