

BNFO 301: Introduction to Bioinformatics

Finding Articles and Finding BioBIKE - Problem Set

Finding articles

1. Obtain the full text of the following article:

Genetic diversity in India and the inference of Eurasian population expansion.
Xing J, Watkins WS, Hu Y, Huff CD, Sabo A, Muzny DM, Bamshad MJ, Gibbs RA,
Jorde LB, Yu F (2010). *Genome Biology* 11:R113.

2. Obtain the full text of the following article:

Michel JB et al (2011). *Science* 331:176-182.

3. Make a list of all articles found in PubMed that contain the words "Creationism" and "Evolution" in the title.

4. Suppose that you dimly recall an article you read that had something to do with a theory of mutation that seemed to point the inheritance of acquired characteristics, i.e. Lamarckianism, or at least a process of mutation that seemed directed to useful phenotypes. You recall that it appeared in the journal *Nature* some time in the late 1980's and had either "mutants" or "mutation" in the title.

4a. Find the article

4b. What ever became of that theory? Find a recent review that looks back on the work you found in 3a.

Using BioBIKE

5. Experiment. Always experiment.

6. Suppose you're doing something interesting in BioBIKE, but it's time to go to dinner. What steps can you take so that you can return to your work when you come back?

7. Use BioBIKE to find how many letters (and spaces and punctuation) are in this sentence.

8. Use BioBIKE to figure out what's VCU's basketball teams' total winning percentage (as of January 22, 2012, the two teams have records of 15 wins, 5 losses, and 11 wins, 7 losses).

9. DEFINE a variable (call it anything you like) to be the organism *Anabaena variabilis* ATCC 29413. Then, using that variable, find the length of that organism. Now redefine the variable to be the organism *Synechocystis* PCC 6803 and using the variable again find the length of *that* organism.

10.. Find something in BioBIKE you don't know how to do. Put it in your log.