The Human Genome was just the Beginning.

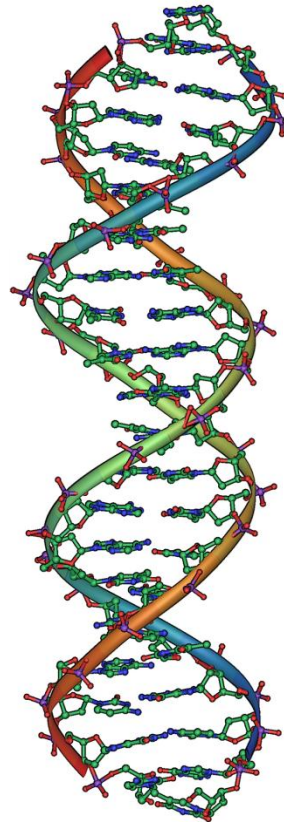## BIOE/CSE 308-408 Bioinformatics: Issues & Algorithms

Professor Brian Chen   Spring 2011   TR 9:20-10:35

New technologies have created many powerful means for understanding life and how it works at a molecular scale. These technologies are the core of pharmaceutical drug development programs and the "biotech revolution," but their data can be interpreted only with computational analysis: bioinformatics.

- Cross Cutting Interdisciplinary Projects with partners in Bioengineering, Biological Sciences, and Computer Science and Engineering.

- The course can be completed without programming.

- Usage of UNIX systems, software automation "scripting" and file handling is required, and will be taught.

Topics Include:

- An Introduction to Modern Biology for Computer Scientists

- Genome Sequencing

- Phylogenetic Reconstruction

- Pairwise and Multiple Sequence Alignment

- DNA Microarray Analysis

- Genome Rearrangements