October 1998

A List of Books for the Course "Algorithms in Molecular Biology"

Introductory Books in Molecular Biology

- L. Gonick. *The Cartoon Guide to Genetics*. Barnes & Nobel, N. Y., 1983.
- Carl Bränden and John Tooze. *Introduction to Protein Structure*. Garland Publishing Inc., New York, N. Y., 1991.
- Karl Drlica. *Understanding DNA and Gene Cloning : A Guide for the Curious*. Addison-Wesley, New York, 2nd edition, 1992.
- J.D. Watson, M. Gilman, J. Witkowski, and M. Zoller. *Recombinant DNA*. W.H. Freeman, New York, 2nd edition, 1992.
- P. Berg and M. Singer. *Dealing with Genes*. University Science Books, 1992.

On The Human Genome Project:

- U. S. Congress. Mapping our genes–the genome projects, how big, how fast? Technical Report OTA-BA-373, Office of Technology Assessment, Washington, D.C., 1988.
- U.S. Department of Energy. DOE human genome program: Primer on molecular genetics. Technical report, Washington, D.C. 20585, 1992.
- Necia Grant Cooper, editor. *The Human Genome Project*. University Science Books, 1994.

Textbooks in Computational Molecular Biology:

- Michael S. Waterman. *Introduction to Computational Biology: Maps, Sequences and Genomes*. Chapman and Hall, 1995.
- Dan Gusfield. *Algorithms on Strings, Trees and Sequences: Computer Science and Computational Biology*. Cambridge University Press, 1997.

- R. Durbin, S. Eddy, A. Krough, and G. Mitchison. *Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids.* Cambridge University Press, 1998.

- J. Setubal and J. Meidanis. *Introduction to Computational Biology.* PWS Publishing Co., 1997.

- P. Baldi and S. Brunak. *Bioinformatics: The Machine Learning Approach.* MIT Press, 1998.

Other Books on Computer applications in Molecular Biology:

- E. Lander and M. S. Waterman, editors. *Calculating the Secrets of Life.* National Academy Press, Washington, 1995.

- Bruce S. Weir. *Genetic Data Analysis II.* Sinauer Associates, Inc., Sunderland, Massachusetts, 1996.

- G. Bell and T. Marr, editors. *Computers and DNA.* Addison-Wesley Publishing Co., MA, 1990.

- Russell F. Doolittle. *Of Urfs And Orfs, A Primer on How to Analyze Derived Amino Acid Sequences.* University Science Books, Mill Valley, CA, 1987.

- R. F. Doolittle, editor. *Methods in Enzymology-Molecular Evolution: Computer Analysis of Protein and Nucleic Acid Sequences*, volume 183. Academic Press, NY, 1990.

- M. Gribskov and J. Devereux. *Sequence Analysis Primer.* Stockton Press, New York, 1991.

- M. Crochemore and W. Rytter, *Text Algorithms*, Oxford University Press, 1994, ISBN 0-19-508609-0.

- David Sankoff and Joseph. B. Kruskal. *Time Warps, Strings Edits, and Macromolecules: The Theory and Practice of Sequence Comparison.* Addison-Wesley, Reading, MA, 1983.

- Michael S. Waterman, editor. *Mathematical Methods for DNA Sequences.* CRC Press, Boca Raton, FL, 1989.

- H. P. Yockey. *Information Theory in Molecular Biology.* Cambridge University Press, Cambridge, 1992.
- S. Istrail, P. Pevzner, R. Shamir (editors). Special volume on mputational Molecular Biology, *Discrete Applied Mathematics* Vol. 71 (1996).

Key Journals:

Journal of Computational Biology. (M. S. Waterman, Chief editor) Mary Ann Liebert Inc.

Bioinformatics (Chris Sander, Gary D Stormo, executive editors)

Discrete Applied Mathematics, special series on Computational Molecular Biology, (S. Istrail, P. Pevzner, R. Shamir, editors). First Volume: *Discrete Applied Mathematics* Vol. 71 (1996). Second Volume: 1998, forthcoming