Technische Universität München
Institut für Informatik
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Proseminar
Algorithmen in der Bioinformatik
Sommersemester 2001
2. Februar 2001

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Themenliste

1. Basic Concepts of Molecular Biology

   [1] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 1.

   [2] P. Clote, R. Backofen: Computational Molecular Biology — An Introduction, Wiley 2000; Kapitel 1.

   [3] M. Waterman: Introduction to Computational Biology, Chapman & Hall, 1995; Kapitel 1.

2. Pairwise Sequence Alignment

   [4] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 3.1, 3.2, 3.3.

3. Multiple Sequence Alignment

   [5] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 3.1, 3.4.

4. Biological Data Bases

   [6] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 3.1, 3.5.

   [7] D. Gusfield: Algorithms on Strings, Trees, and Sequences – Computer Science and Computational Biology, Cambridge University Press, 1997; Kapitel 15.

   [8] Eigene WWW-Recherche

5. Fragment Assembly

   [9] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 4.1, 4.2, 4.3.

6. Physical Mapping

   [10] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 5.1, 5.2, 5.3.

7. Evolutionary Trees: Reconstruction from Character Data

   [11] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 6.1, 6.2, 6.3, 6.4.

8. Evolutionary Trees: Reconstruction from Distance Matrices

   [12] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 6.5, 6.6.

9. Genome Rearrangements

   [13] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 7.1, (7.2), 7.3.

   [14] P. Pevzner: Computational Molecular Biology — An Algorithmic Approach, MIT Press, 2000; Kapitel 10.1, 10.2, 10.3.

10. Structure Prediction

    [15] J. Setubal, J. Meidanis: Introduction to Computational Molecular Biology, PWS 1997; Kapitel 8.1, 8.2, 8.3.

    [16] P. Clote, R. Backofen: Computational Molecular Biology — An Introduction, Wiley 2000; Kapitel 6.4, 6.5.