Algorithmic approaches for sequence assembly

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Abstract

The lecture will be a comprehensive survey of technologies, algorithmic problems, practical issues, and software implementations pertinent to sequence assembly. Main topics will include:

- Clone-based, whole-genome shotgun, and hybrid sequence assembly. Sequence contigs, scaffolds, overlap graphs, layout, and finishing.

- Physical maps: fingerprinting, anchoring, and BAC-end sequencing.

Additional topics may include:

- Clone pooling for sequence assembly and physical mapping.

- Emerging technologies: pyrosequencing, sequencing by hybridization.