

LONGEST COMMON SUBSEQUENCES, OPTIMAL ALIGNMENTS in relation to PERCOLATION  
MODELS

Heinrich Matzinger - **Georgia Institute of Technology**

Abstract

Longest Common Subsequences (LCS) and Optimal Alignments (OA) are widely used to identify similar places in long strings.

The areas of application are in genetics as well as natural language processing. Yet many of the mathematical properties of LCS and OA of random strings are still open questions. We will overview several recent results.

Furthermore LCS and OA-scores can be viewed as Last Passage Times in a percolation model with correlated weights.

We will compare the OA and LCS model with the regular First/Last Passage Percolation