

# Abstract

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## **Inferring Horizontal Gene Transfer from Posets**

We present a method for detecting horizontal gene transfer (HGT) using partial orders (posets). The method requires a poset for each species/gene pair, where we have a set of species  $S$ , and a set of genes  $G$ . Given the posets, the method constructs a phylogenetic tree that is compatible with the set of posets this is done for each gene. Also, the set of posets can be derived from the tree. The trees constructed for each gene are then compared and tested for contradicting information, where a contradiction suggests HGT.