

A Postdoctoral and Ph.D. positions in Computational Genomics and Phylogenetics are available at the Institute of Evolution at the University of Haifa. The research projects will be done in collaboration with the Phylogenetics and Computational Genomics lab of Prof. Sagi Snir. The positions are targeted to two projects:

1. Tree reconstruction in light of conflicting signals. Real life data provide high degree of incongruent data that needs to be reconciled into a single tree. This is normally done by means of supertree methods. We have developed several approaches to this that rely on non trivial algorithmic and computational/mathematical tools. We decompose the inputs into the most basic informational unit and summarise them across all the data. This data aggregation provides us with information that is invisible at the single tree level or at the level of the entire data collection. Using this novel techniques we are able to distinguish between e.g. toxic and non-toxic genes. We investigate both theoretical and practical questions associated with these approaches.
2. Detection and analysis of horizontal gene transfer (HGT) in prokaryotes. HGT is a major factor in prokaryotic evolution and plays a significant role in developing antibiotic resistance. Current methods rely on a very strong and clear HGT signal that is frequently absent, e.g. HGT between strains of a species. We have developed several novel methods to detect HGT where existing methods fail. The methods use evolutionary signals, unique to HGT, that are detected by rigorous statistical approaches. The successful candidates must have familiarity with computational/mathematical biology. Essential requirements include proficiency in computer-programming skills, such as C/C++/Java and scripting languages (e.g. Perl, Python), demonstrated ability in applying the devised algorithms. Duties of the role will include algorithm development, implementation and testing by simulation and application on real biological data.

The Institute of Evolution is world leading in broad aspects of evolution, both theoretical and practical. The team of Prof. Snir is characterized by works with both algorithmic and evolutionary appeal with ample collaboration with other leading labs around the world. Applicants should send a CV, a statement of research interests and the names and contact information for 3 references.

Review of the

applications will start immediately until positions are filled.

The initial contract is for the postdoc is one year with possibility of extension. For Ph.D. students, the contract is for three years with possible additional year extension. Please send applications by email to: Prof. Sagi Snir, Department of Evolutionary and Environmental Biology and The Institute of Evolution, University of Haifa Mount Carmel, Haifa 31905 ISRAEL Tel: (972) 4 828-8774 Email:

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