

regevscope Manual

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Overview

This manual provides documentation of the **regevscope** program, which is short for **regulatory evolution landscape** simulator. **regevscope** simulates sequence evolution of an enhancer using a computational model of regulatory function based on the Segal model [1], a fitness penalization for misexpression, and forward population simulations. It was originally used by Bullaughey [2] to investigate nucleotide substitution processes in a regime of stabilizing selection for a particular regulatory output of simple toy enhancers. For an overview of the model and details on the implementation, please refer to the original paper [2]. The purpose of this manual is to document usage of the program and aid interpretation of the output.

References

- [1] Segal E, Ravich-Sadka T, Schroeder M, Unnerstall U, Gaul U (2008) Predicting expression patterns from regulatory sequence in drosophila segmentation. *Nature* 451: 535-40.
- [2] Bullaughey KL (2010) Changes in selective effects over time facilitate turnover of enhancer sequences. *Genetics* : genetics.110.121590.