**TREMEL Help**

Search Box(es)

The user can query TREMEL with either genes, TFs or terms, or a combination of up to 3 entities of any type. The entity type can be selected from the drop down list to the right of each search box. Clicking the ‘+’ button to the left of the first search box opens an additional search box. A maximum of 3 search boxes are allowed. The genes and TFs field need to be the official symbols designated by NCBI. The term query can be any single term and is case insensitive. The output of the tool consists of two panels.

Top Panel: 3-D interactive plot

The top panel is comprised of a 3-dimensional interactive plot that shows all ATMs containing the search box entities, as points. The axes of the plot correspond to the NTF approximation rank *k*, the ATM #, and the rank of the queried entity (first search box only) in the ATMs. An ATM can be selected in the panel by clicking on its corresponding point in the 3-D plot. The color of the selected point changes to red and the colors of the remaining points corresponding to all other ATMs are depicted in terms of similarity to the selected ATM. The most similar ATMs are colored in shades of red while the least similar ones are colored in shades of blue. The similarity between any two ATMs is calculated as the Jaccard coefficient between the sets of genes and TFs in the respective ATMs.

Bottom Panel: ATM contents

The bottom panel contains several sub-panels, each corresponding to an ATM point in the first panel. The top sub-panel corresponds to the selected ATM, and the remaining ATMs are ordered according to their similarity to the selected ATM. Each sub-panel displays the ranked genes, TFs and terms of the corresponding ATM, as well as the enriched GO and KEGG categories. Clicking a sub-panel expands it to display its contents, and closes the previously open sub-panel. The contents of only one sub-panel are viewable at a time.