**Potential biological significance of reachability results**

1. **Pairs of nodes**

*G = (V, E, w)*

We rank the resulting pairwise reachability probabilities *(si, ti, pi)* in descending order and investigate the functional annotations of the top pairs.

1. **Effects of perturbation**
2. Changing edge probabilities

*G∆ = (V, E, w∆)* 🡺 Vector of pairwise probabilities *R∆ = [p1∆, … , pk∆]*

* We can investigate the changes to individual values of *(pi∆ - pi)*
* We can investigate the change to the aggregate *r = ∑(pi∆ - pi) / k* for different values of *∆* and different datasets

1. Changing network topology

*G∆ = (V, E∆, w)* 🡺 Vector of pairwise probabilities *R∆ = [p1∆, … , pk∆]*

We can investigate the change to the aggregate *r = ∑(pi∆ - pi) / k* for different values of *∆* and different datasets

1. **Effects of uncertainty on network features**
2. Node betweenness/centrality

Redefine betweenness/centrality for a probabilistic network; investigate the correlation between its value and the corresponding value for deterministic network with same topology

1. Prominent nodes/interactions

Investigate the effect of node removal, edge removal and or changing individual edge weights on the output pairwise reachability probabilities.