

Study Questions for “Identification of critical connectors in the directed reaction-centric graphs of microbial metabolic networks” by Kim et al.

- 1) What is the difference between bridging centrality and betweenness centrality?
- 2) Can you identify whose position might represent a node of high betweenness centrality in a large, hierarchical organization such as UCSF?
- 3) Why nodes with high degree tend not to be important for information flow?
- 4) **Challenge question 1:** What is the difference between the concept of “cascade number” and network controllability?
- 5) **Challenge question 2:** Would the results of this analysis change significantly if authors used controllability instead of cascade number to identify essential reactions? Why?