

**N18 Kim, J., & Diesner, J. (2014). Structure of scientific collaboration: Considering the order of co-authors for co-authorship networks.**

The order of coauthors on a paper conveys information about the relative contribution of each individual involved. Even though coauthorship networks are a widely studied topic and the order to coauthors has strong practical relevance for evaluating scholars, this topic has received little attention from network analysts. One reason for this gap might be the lack of a framework for conceptualizing coauthor ordering effects. By symmetrizing the coauthor relations, previous studies imply the assumption that each individual contributes equally to joint paper. We address this limitation by having developed a new framework where we model coauthor networks as directed, weighted graphs and model the individual contribution of each author. This new approach enables us to leverage node-level prestige metrics that are defined for directed networks, including indegree, proximity, and beta-centrality. We report on applying our framework to co-authorship networks constructed based on the papers published in “Social Networks” between 1980 and 2010. Our results suggest that prominent scholars are likely to collaborate with other prominent scholars. We observed a small group of scholars to often lead collaborations as the first or corresponding authors, while the majority of others play a supporting role. Since these findings are not found with the classic way of modeling coauthor networks our framework supplements alternatives. We also report on the validation of our approach, where we tested compared prominent individuals identified by our method to prominence in terms of serving as conference committee members and journal editors.