Individual disciplines in both the humanities and sciences have well-defined and often tested models that provide efficient mechanisms for collaboration. These models reflect centuries of refinement, and are fully integrated into the training and education of creators and researchers. However, as new forms of media creation emerge, creative teams are increasingly trans-disciplinary, and these discipline specific, often hierarchical models are not well suited for more dynamic environments. As a consequence, trans-disciplinary collaborative teams in the humanities often expend a great deal of effort in redefining roles and social network structures within the group. Tension arises between the familiarity of well-defined discipline specific architectures and the need for new, dynamic, evolving models of collaboration. Nonetheless, there has been little work in developing formal models for trans-disciplinary research and creation that might assist in defining the optimal conditions for successful collaboration in these small teams.

While some relatively universal models have been developed in social network analysis that aid in predicting patterns and likely events within scale-free networks, these models do not necessarily translate to small-scale networks. Nonetheless, we propose that appropriate models for small-scale networks in trans-disciplinary collaborations can be constructed through empirical analysis of recurring patterns and detection of unique events as they are documented within actual development cycles.

This paper uses the tools of social network theory to document the creation of a mediated theater piece, Haunted When it Rains. Our research traces interactions and network evolution within a trans-disciplinary group of both faculty and students from art and engineering disciplines over an eleven-month time span. We are specifically concerned with group ethics, communication/information flow, player connectivity, player investment, presence of contribution to the project at given points in time as the project developed, and individual player models outlining responsibilities assumed and prior individual experience relevant to the project.