

## Collaboration Patterns in Networked Scholarly Organization (Poster)

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### Abstract

In the past few decades, as knowledge and innovation have emerged as the premiere assets and only sustainable competitive advantage, governments and private companies alike have invested significant efforts in the creation, transfer, and application of knowledge. These efforts coincide with major changes in scientific research towards more collaboration, more technology, and wider geographic dispersal of researchers.

The Canadian government's approach to encouraging both knowledge creation and research collaboration is the Networks of Centers of Excellence (NCE) program. The Graphics, Animation and New Media (GRAND) project, which serves as the focal point for this study, is one of many NCEs created by the federal government with the mandate to foster nation-wide and multidisciplinary research collaboration.

Collaborative research networks, such as GRAND, come with their own challenges. NCEs participants have diverse disciplinary backgrounds, institutional affiliations, sectors, and physical locations. Their differences weaken the social bonds among them, hinder mutual understanding, and make communication difficult. The development of truly collaborative relationships requires support and careful management. In order to understand the processes of collaborative research and knowledge transfer, this research examines collaborative relationships among the researchers involved in GRAND. In doing so, our analysis will be focused both on the social and organizational context of this collaborative project, as well as the role of information and communication technologies (ICTs) in supporting it.

By use of survey research (N=101) and network analysis, this research examines the collaborative ecology of GRAND in terms of four networks of interaction: co-authorship of scholarly publications, communication activity (looking at both face to face, and technology mediated communication), interpersonal acquaintanceship, and advice exchange. This study exposes the structural topology of the researchers involved in GRAND, in relation to the disciplinary and institutional arrangements of GRAND. Our findings indicate that GRAND collaboration networks have fluid, non-cliquish topologies. Further analysis reveals that structural communities in the co-authorship, acquaintanceship and advice networks overlap considerably. They also exhibit little disciplinary and institutional diversity. Overall, our results point to the importance of interpersonal relationships for accomplishing scientific work in distributed environments, as well as the importance of social media sites in the formation of new acquaintanceship ties. We conclude by offering a theoretical framework that can be used to understand how scientific teams get together in the first place, and what mechanisms and technologies can be used to intervene in these processes.

**Keywords:** Social Network, Scientific Collaboration, Collaborative Networks