



Investigating Demographics and Mobility through Faculty Hiring Network in GIScience

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This study investigated detailed faculty demographics and structures of hiring networks in the GIScience community. The primary data source is the GISphere Guide (<https://gisphere.github.io/>), which compiles exhaustive information on over 400 accredited GIScience programs and over 1300 tenure-track faculty members worldwide. Based on the database, this study aims to examine the following questions on a global scale: 1) Which universities produce the most GIScience faculty members in different countries? 2) How do institutional prestige and faculty demographics (race/ethnicity, nativity, and gender) shape faculty placements? 3) How does the knowledge within and across GIS themes transmit through the international hiring network? To answer these questions, this study proposes to use network analysis to uncover the prestige of GIScience programs and further explore each program's characteristics. Professors' research interests have been summarized in the database, which is used to manually filter out those who do not specialize in GIScience but use GIS as a tool during the data cleaning process. In addition to the existing dataset, we plan to include the institution, year, and major of each faculty member's degree from their websites, curriculum vitae, and biographies. Furthermore, a faculty demographics survey will be conducted via email. Figure 1 illustrates the overall patterns of faculty placement in Canada. Each node refers to a university, and its size indicates the number of faculty that graduate from this university. Each edge represents the number of Ph.D. students who graduated from one node and are currently employed in the other.

There have been studies on prestigious programs and faculty hiring in the fields of technology, engineering, mathematics, business, and economics. We identify a research gap concerning prestigious programs in GIScience. The faculty hiring network is a key component that reflects the program's prestige. The findings will help in determining whether, like in other disciplines, program-based inequalities exist in GIScience and whether they are perpetuated by elite programs that limit faculty representation. This is essential for promoting sustained GIScience education in the long term. In addition, prestige helps in demonstrating programs' characteristics, and faculty hiring networks are essential to comprehending the global circulation and transmission of research themes in GIScience. This will enhance professionals' and students' understanding of GIScience and inspire future research.

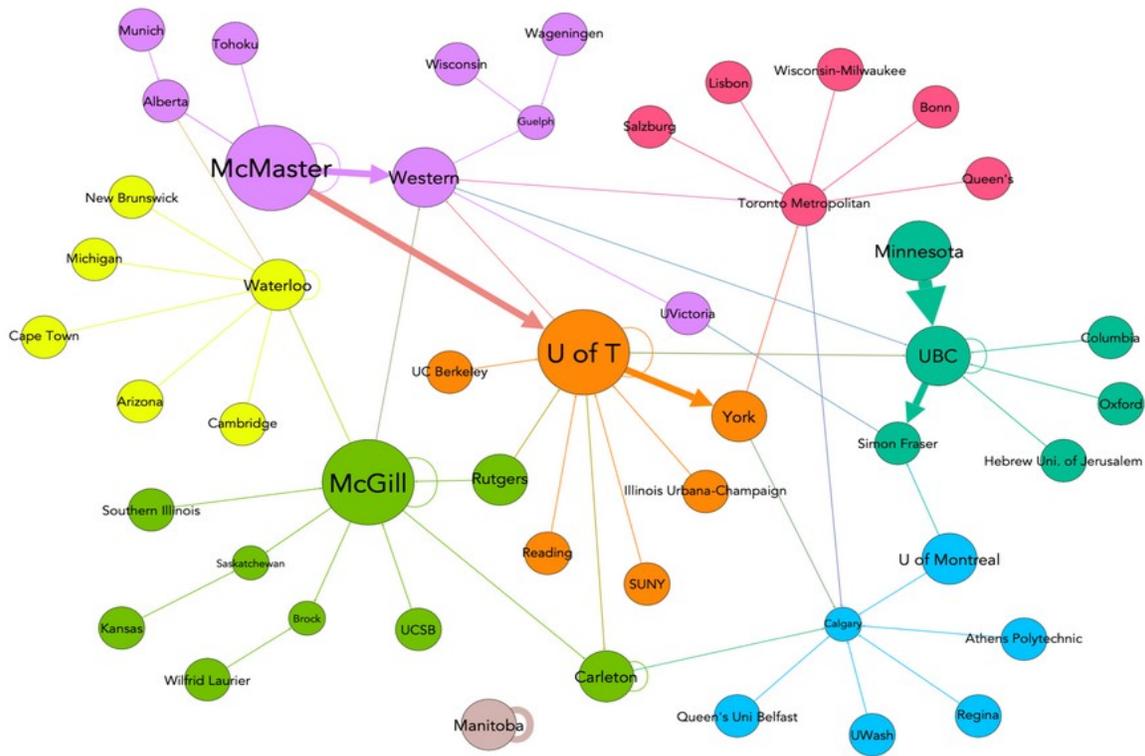


Figure 1. The network and placement of faculty by graduated universities in Canada GIScience programs