

# Fiona Sijie Feng

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The course of study I have pursued has broadly focused on applied microeconomics. I have taken courses on innovation, empirical methods, text analysis, computational techniques.

My major focus is empirical knowledge diffusion, with minor focuses on the effect of local firm dynamics on long term regional inequality. I am interested in using techniques from the fields of machine learning and text analysis to create new measures of variables that are of interest to economists. For example, in my current research, I construct new measures of knowledge spillovers using the text of patent abstracts. More generally, I am interested in studying the evolution of knowledge flows over time across different fields in academia, and measuring the extent to which academic knowledge is hegemonic. I would also like to use text from local newspapers, articles on local events, to identify what the information climate is like in a city during periods of economic growth and stagnation.

I am in the process of forming my committee and expect to complete my dissertation in 2018. My advisers are currently Petra Moser and Walker Hanlon. The abstract for my dissertation proposal is attached below.

*Are knowledge spillovers geographically localized? Lead by Jaffe, Trajtenberg, Henderson (1993), the traditional empirical approach within economics has been to proxy for the diffusion process using citations in patents and academic articles. The main problem with this approach is that citations are a noisy proxy for knowledge flows across firms. This paper addresses such concerns by examining the diffusion process more directly through analyzing the text of patents. Using the abstracts of granted patents, I construct a measure of diffusion based on the similarity of patent abstracts across geographical locations over time. Further, I will analyze*

*the ideas that spur diffusion and the characteristics of their firms for their effect on economic innovation.*

I am interested in attending the conference because I believe that new tools made available to us from the fields of machine learning and text analysis will allow us to measure factors of increasing importance in the new economy. For example, factors such as political opinions, cultural production, knowledge flows. I would like to examine how these new factors affect and are affected by “standard” measures of local economies.