National Taiwan University
Date/Time: May 29th 2012, 12:30~14:00 p.m.
Place: Room 202, the Geography Department Building
Speaker: Dr. Ming-Hsiang Tsou (San Diego State University)
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Title: **Cyber Geography: Visualizing and Analyzing Diffusion of Innovations in Cyberspace and Social Networks.**
<div align="center">**Abstract:**</div>

Geographers have been studying diffusion of innovations over 50 years since Roger published his renowned book, "Diffusion of Innovations" in 1962. Torsten Hägerstrand (1953) and Lawrence Brown (1981) both tried to use early GIS and spatial analysis methods to analyze innovation diffusions from a spatial perspective among various subjects and industries. However, due to the lack of comprehensive geolocation datasets and advanced computing software, the spatial aspect of innovation diffusion theories is not well developed and adopted in other social science disciplines (comparing to the popularity of general diffusion of innovations theories).

Today the Web and social media are powerful cyberspace platforms for collecting ideas, opinions, human thinking, and social movements. Geographers have a great opportunity to utilize the Web and social media to visualize and analyze the spatial process of innovation diffusions. Cyberspace activities (such as web pages, online forum, and social media) not only provide a rich data source for analyzing diffusion of innovations, but also resulted in inevitable paradigm shifts in social science and geography. By analyzing "near real-time" social media published by millions of users every day, social scientists will have a faster and more inexpensive way to understand and monitor the dynamic changes and culture interactions in our society.

This presentation will discuss a new research direction for geographers: cyber geography. Cyber geography focuses on the monitoring and analysis of ideas, events, and trends distributed in cyberspace and social networks. This new field (cyber geography) may develop new tools and methods for social scientists to study human thoughts, behaviors, disease outbreaks, global web contents, and internet communication theories. Part of this presentation will highlight my recent NSF-CDI project, "Mapping Ideas from Cyberspace to Realspace" (funded by National Science Foundation, Award # 1028177, 2010-2014) (http://mappingideas.sdsu.edu). In this research we developed a new Spatial Web Automatic Reasoning and Mapping System (SWARMS). This innovative spatial tracking framework utilized both commercial search engines (Bing and Yahoo) and Twitter search APIs to create visualization maps showing the density of ranked web pages or tweets related to specific keywords in different cities and regions. The spatial-temporal analysis of web contents and social media can help us to understand the diversity of human concepts in a global scale and to be applied in the fields of business marketing, homeland security, public policy making, and public health.