

Mapping Science: An Overview

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Abstract: The aim of this workshop is to make audience familiar with mapping techniques by utilizing several available software : VOSviewer, Gephi, Google-Maps, CiteSpace, and Pajek. Moreover, social network analysis' core principles will be discussed briefly. Notes on the graph concept in mathematics, graph types (weighted /unweighted/directed/undirected) and structural features will be covered. Scientific maps enables us track and understand the follow of knowledge. With advancement of computer technologies visualization has become a guiding tool for information scientists. Information scientists and practitioners have been designing captivating tools which illustrates the scientific maps. For example, CiteSpace designed by Dr. Chaomei Chen enables information scientists to map the temporal and structural scientific domain. Moreover, Gephi is an open source software which enables information scientists not only graph social network also enables statistical measurement as well. Google-Maps Google-Earth enable us to see the collaboration among scientific community on geographic map.

Target Audience: Librarians, practitioners and researchers.

Workshop Topics:

- Gephi data formats. Loading, displaying , and editing data in Gephi.
- Uploading *.NET format in Gephi,
- Calculating statistical metrics such as, centrality, degree, Clustering Coefficient etc.
- Working with social network analysis data such as node, ego etc.
- Utilizing VOSviewer for data mining purposes such as text files and .NET (Pajek files)
- Covering the network of relation among scientific collaboration in terms of their address using Google-Maps
- Utilizing CiteSpace for bibliometric purposes

Prerequisites: Participants should become familiar with the concept of social network analysis by reading:

- John Scott, (2005). *Social Network Analysis: A Handbook* => http://books.google.com.tr/books/about/Social_network_analysis.html?id=Ww3_bKcz6kgC&redir_esc=y
- Pajek => <http://vlado.fmf.uni-lj.si/pub/networks/pajek/>
- Gephi => <http://gephi.org>
- CiteSpace => <http://cluster.cis.drexel.edu/~cchen/citespace/>