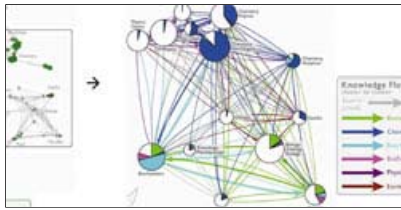


SLIS Faculty News

Katy Börner, Mapping Science in Washington, D.C.



"How does our collective scholarly knowledge grow over time? What major areas of science exist and how are they interlinked?"

Katy Börner, SLIS faculty member, recently gave two presentations on mapping science in Washington, D.C. - one at the National Science Foundation and one at the National Geographic Society.

On May 14, 2007, at the National Science Foundation, Börner gave a talk on **Mapping the Evolving Interface of Mainstream Chemistry and the Fields of Biochemistry, Biology, and**

Bioengineering (pdf). She discussed the "concepts of mapping science through algorithms applied to data from Science Citations Index, and then take a close look at the activities at the Chemistry/Biology Interface over time using these methods." [presentation flyer]

This talk is based on a paper **Mapping the Structure and Evolution of Chemistry Research** [see abstract below], which was a collaborative effort with Kevin W. Boyack and Richard Klavans. The paper will be presented at the **11th International Conference of the International Society for Scientometrics and Informetrics** meeting in Madrid, Spain, June 2007.

On May 15, 2007, Börner discussed her work on mapping science at the National Geographic Society. She recently spoke at the Monroe County Public Library, Bloomington, IN about the exhibition **Places & Spaces: Mapping Science**, which uses maps, diagrams, and globes to create a navigable landscape tracing and charting developments in science.

Related Story: [Places & Spaces Exhibit at MCPL - May 2007](#)

Abstract - Mapping the Structure and Evolution of Chemistry Research

How does our collective scholarly knowledge grow over time? What major areas of science exist and how are they interlinked? Which areas are major knowledge producers; which ones are consumers? Computational scientometrics - the application of bibliometric/scientometric methods to large-scale scholarly datasets - and the communication of results via maps of science might help us answer these questions. This paper represents the results of a prototype study that aims to map the structure and evolution of chemistry research over a 30 year time frame. Information from the combined Science (SCIE) and Social Science (SSCI) Citations Indexes from 2002 was used to generate a disciplinary map of 7,227 journals and 671 journal clusters. Clusters relevant to study the structure and evolution of chemistry were identified using JCR categories and were further clustered into 14 disciplines. The changing scientific composition of these 14 disciplines and their knowledge exchange via citation linkages was computed. Major changes on the dominance, influence, and role of Chemistry, Biology, Biochemistry, and Bioengineering over these 30 years are discussed. The paper concludes with suggestions for future work.

Boyack, Kevin W., Börner, Katy and Klavans, Richard. (2007) Mapping the Structure and Evolution of Chemistry Research, Accepted for 11th International Conference on Scientometrics and Informetrics, Madrid, Spain, June 25-27, 2007.

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