SLIS Events News

Mapping Science at Harvard's Cambridge Colloquium



Katy Börner and Elisha Hardy

On Thursday, September 21, SLIS faculty member <u>Katy Börner</u> will present "Mapping Science: Opportunities and Challenges" at Harvard University's <u>Cambridge Colloquium on Complexity</u> and <u>Social Networks</u>.

A one-hour workshop precedes this talk. The workshop will introduce diverse cyberinfrastructures (CIs) such as the <u>Information Visualization CI</u>, the <u>Network Workbench</u>, and respective databases. These CIs serve the needs of the InfoVis and NetsSci research communities respectively. They also make possible the analysis and mapping of mankind's scholarly knowledge.

ABSTRACT

Mapping Science: Opportunities and Challenges

In this talk I will showcase recent progress in mapping mankind's scholarly knowledge on a global scale. I will start with an introduction of the process of mapping scholarly data, an overview of commonly used metaphors and references systems, and a visual feast of large-scale maps of sciences. Next, I discuss the utility of science maps for diverse user groups and existing research and practical opportunities. I conclude with a set of major challenges related to the continuous harvesting, integration, processing, analysis, mapping, interactive display, and interpretation of a steadily increasing stream of interdisciplinary, multi-lingual scholarly data. The talk draws on work published in [1-8] as well as on the 'Places & Spaces: Mapping Science' exhibit.

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REFERENCES

- 1. Börner, K., Chen, C. and Boyack, K. (2003). Visualizing Knowledge Domains. in Cronin, B. ed. *Annual Review of Information Science & Technology*, Information Today, Inc./American Society for Information Science and Technology, Medford, NJ, 179-255.
- 2. Börner, K., Dall'Asta, L., Ke, W. and Vespignani, A. (2005) Studying the Emerging Global Brain: Analyzing and Visualizing the Impact of Co-Authorship Teams. *Complexity*, 10 (4). 58 67.
- 3. Börner, K., Maru, J.T. and Goldstone, R.L. (2004) The Simultaneous Evolution of Author and Paper Networks. Proceedings of the National Academy of Sciences of the United States of America, 101(Suppl_1). 5266-5273.
- 4. Börner, Katy, Penumarthy, Shashikant, Meiss, Mark and Ke, Weimao. (2006) Mapping the Diffusion of Scholarly Knowledge Among Major U.S. Research Institutions. Scientometrics. 68(3), pp. 415-426.
- 5. Börner, K., Sanyal, S. and Vespignani, A. (in press). Network Science. In Cronin, B. ed. Annual Review of Information Science & Technology, Information Today, Inc./American Society for Information Science and Technology, Medford, NJ.
- 6. Boyack, K.W. and Börner, K.B. (2003) Indicator-Assisted Evaluation and Funding of Research: Visualizing the Influence of Grants on the Number and Citation Counts of Research Papers. Journal of the American Society for Information Science and Technology, 54 (5), 447-461.
- 7. Boyack, K.W., Klavans, R. and Börner, K. (2005) Mapping the Backbone of Science. Scientometrics, 64 (3). 351-374.
- 8. Shiffrin, Richard M. and Börner, Katy. (April 2004). Mapping Knowledge Domains. *Proceedings of the National Academy of Sciences of the United States of America*, 101(Suppl_1).

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