Brief Bio and (PR)²: Problems & Pitches – Rants & Raves by Katy Börner

About me
Katy Börner holds a MS in Electrical Engineering from the University of Technology in Leipzig, 1991 and a Ph.D. in Computer Science from the University of Kaiserslautern, 1997. She is the Victor H. Yngve Professor of Information Science at the School of Library and Information Science, Adjunct Professor in the School of Informatics, Core Faculty of Cognitive Science, Research Affiliate of the Biocomplexity Institute, Fellow of the Center for Research on Learning and Technology, Member of the Advanced Visualization Laboratory, and Founding Director of the Cyberinfrastructure for Network Science Center (http://cns.iu.edu) and the Information Laboratory at Indiana University. She is a curator of the Places & Spaces: Mapping Science exhibit, http://scimaps.org.

Her research focuses on the development of data analysis and visualization techniques for information access, understanding, and management. She is particularly interested in the study of the structure and evolution of scientific disciplines; the analysis and visualization of online activity; and the development of cyberinfrastructures for large scale scientific collaboration and computation.


She and her colleagues at the Cyberinfrastructure for Network Science Center serve the
- Scholarly Database of 27 million scholarly records, http://sdb.cns.iu.edu
- Information Visualization Cyberinfrastructure, http://iv.cns.iu.edu

For more information on her research agenda, teaching, and other activities, visit: http://info.slis.indiana.edu/~katy/

Questions

1. What are your main interests in attending the workshop?
   I would like to understand exactly what datasets exist and how our plug-and-play macroscope tools might be used to mine and visualize this data.

2. What ideas, methods and tools would you like to share at the workshop?
   The Cyberinfrastructure Shell (CIShell.org) supports the plug-and-play of datasets and algorithms and their bundling into custom tools that serve the specific needs of a user group or research community. It has been applied to develop diverse custom tools such as Network Workbench Tool and the Science of Science Tool, see http://cishell.org, and the tools are used by 100,000 around the globe.
At IU, I am leading the Information Visualization Lab and we work closely with diverse clients to help them make better sense of BIG datasets.

3. What do you think are the biggest opportunities or unmet needs in any of: translational medicine, drug discovery, semantic technologies, data visualization, or healthcare information? (feel free to pick those with which you have the most interest/experience)
Understanding the quality, scope, interlinkage of exiting data is key. Identification of insight needs and priorities is important for designing “dream tools” and analysis+visualization workflows that truly improve decision making.

4. What are the biggest road blocks to realizing these opportunities?
I do not have daily contact to experts in translational medicine, including drug repurposing, target identification, gene-disease association and patient population mapping. However, a close collaboration is required to identify R&D sweet spots.

5. In which of the main areas of emphasis of the workshop (semantics, translational medicine, drug discovery, big data, semantic technologies, visualization and networks) do you work?
Data mining and visualization.

6. What are the biggest challenges in your work currently?
Designing tools with a low floor and a high ceiling, e.g., they are easy to use by novice users but scale to meet expert needs.

7. What are the main sources of funding for your work? How difficult do you consider it to get funding in your area, and why?
Government, industry, and private funding—very much depends on project type.

8. What would you like to learn and achieve at the workshop?
Identify promising healthcare and drug discovery collaboration opportunities that result in improved health, higher return on investment, or answers to scientific questions.