SCWS2014

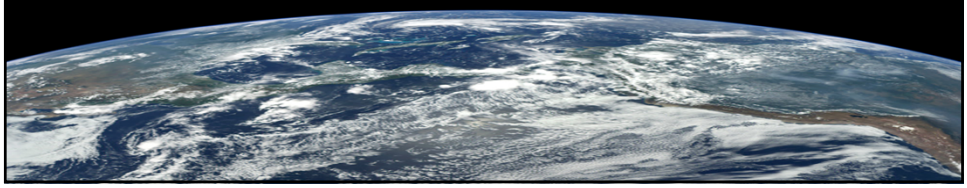
SCIENCE CENTRE WORLD SUMMIT 2014
PUBLIC ENGAGEMENT FOR A BETTER WORLD

17/3 - 19/3/2014
MECHELEN / BRUSSELS (BELGIUM)

New Technologies for Learning and Engagement

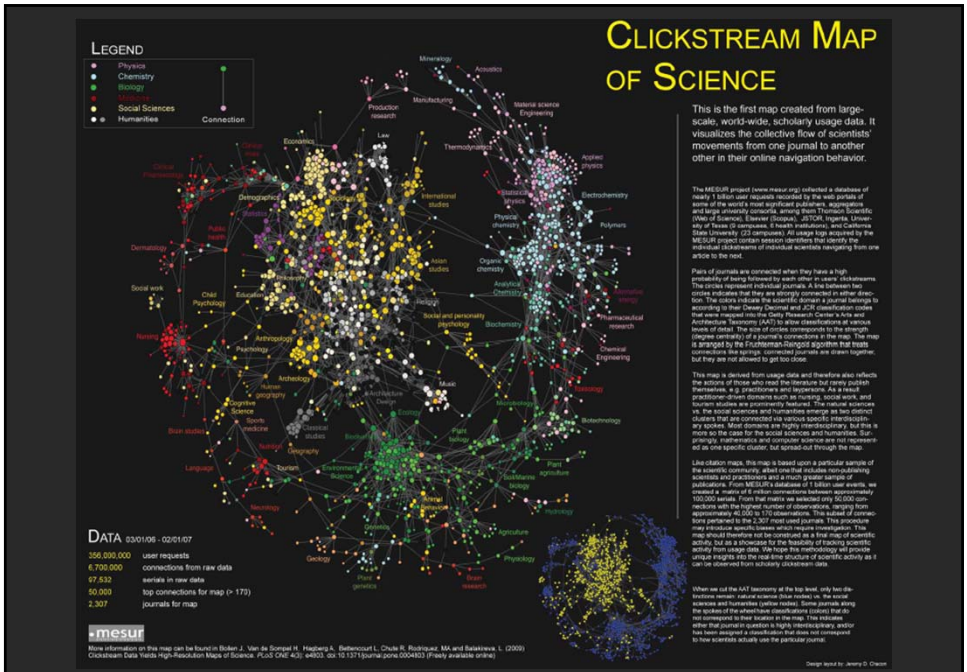
Katy Börner, Indiana University, USA

Science Centre World Summit at Technopolis in Mechelen, Belgium
March 19, 2014

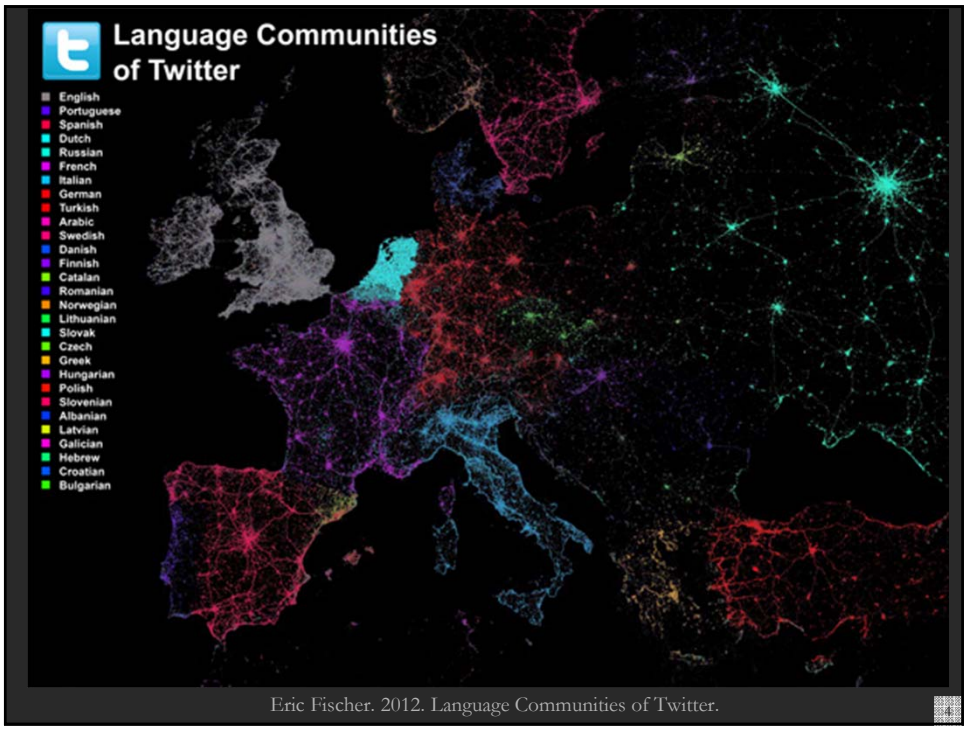


Map of Scientific Collaborations from 2005-2009

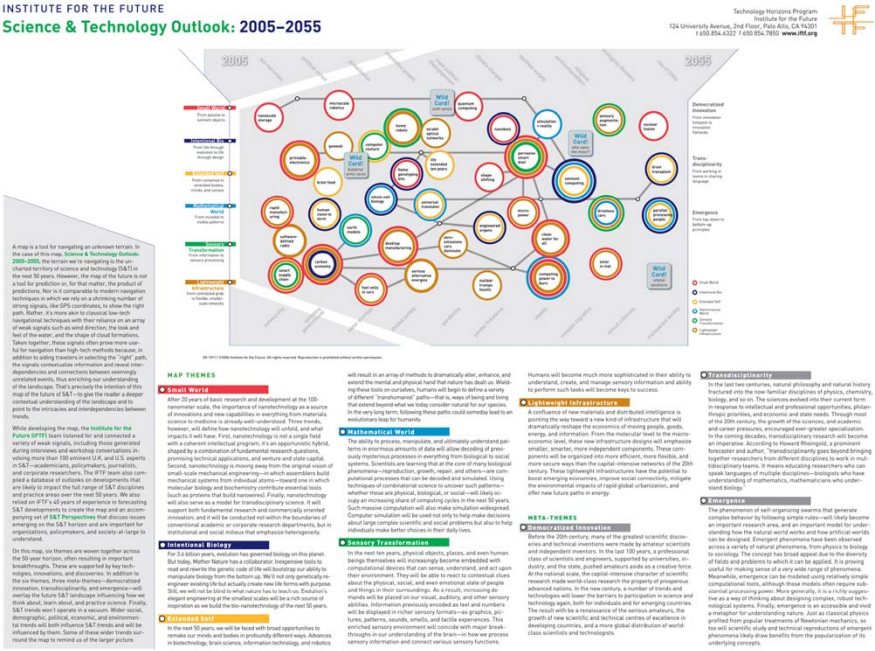
Olivier H. Beauchesne, 2011. Map of Scientific Collaborations from 2005-2009.



Bollen, Johan, Herbert Van de Sompel, Aric Hagberg, Luis M.A. Bettencourt, Ryan Chute, Marko A. Rodriquez, Lyudmila Balakireva. 2008. A Clickstream Map of Science.



Eric Fischer. 2012. Language Communities of Twitter.



Science & Technology Outlook: 2005-2055 - Alex Soojung-Kim Pang, David Pescovitz, Marina Gorbis, Jean Hagan - 2006

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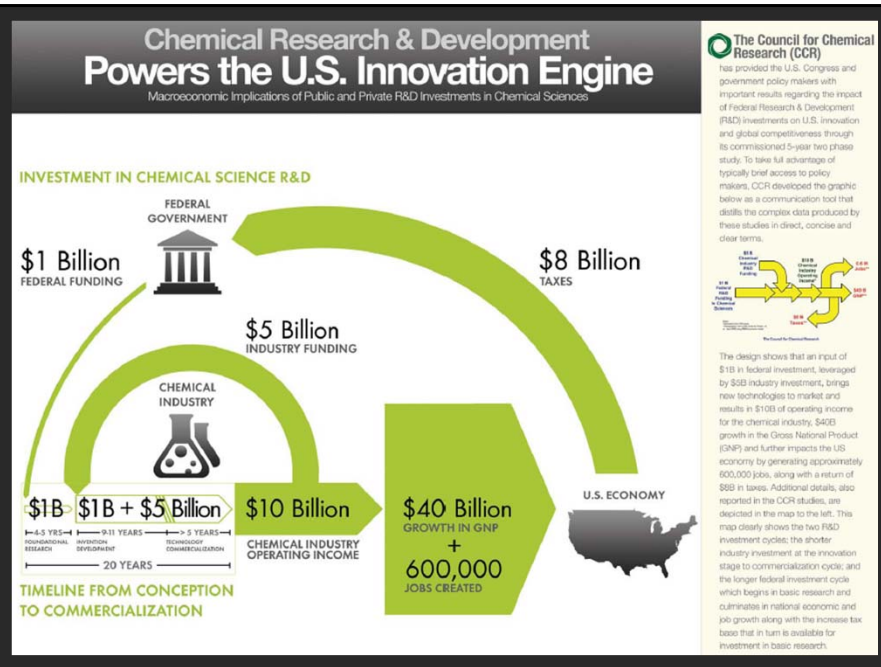

Council for Chemical Research. 2009. Chemical R&D Powers the U.S. Innovation Engine. Washington, DC. Courtesy of the Council for Chemical Research.

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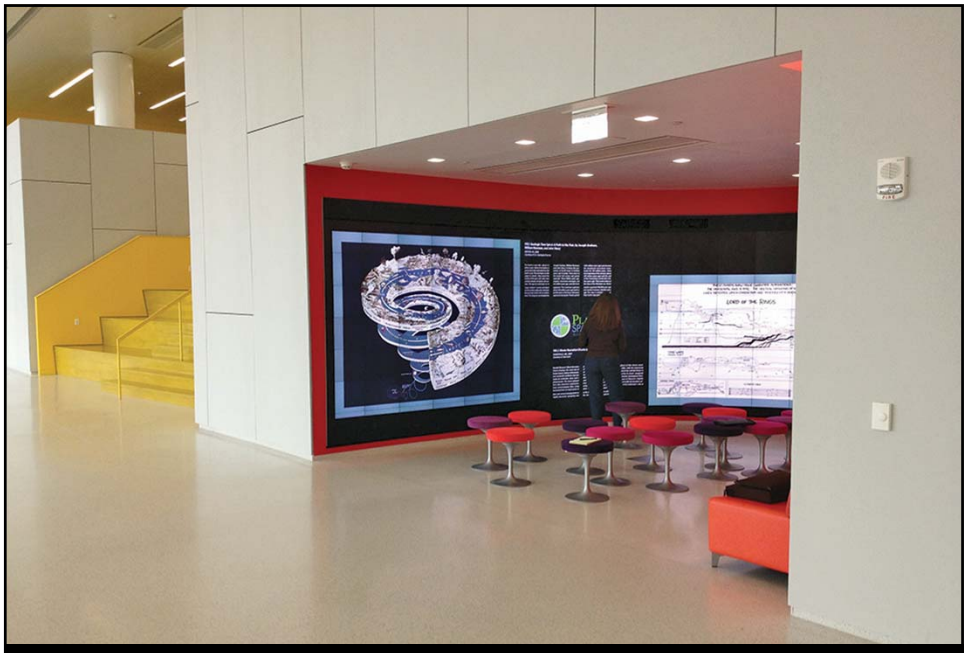
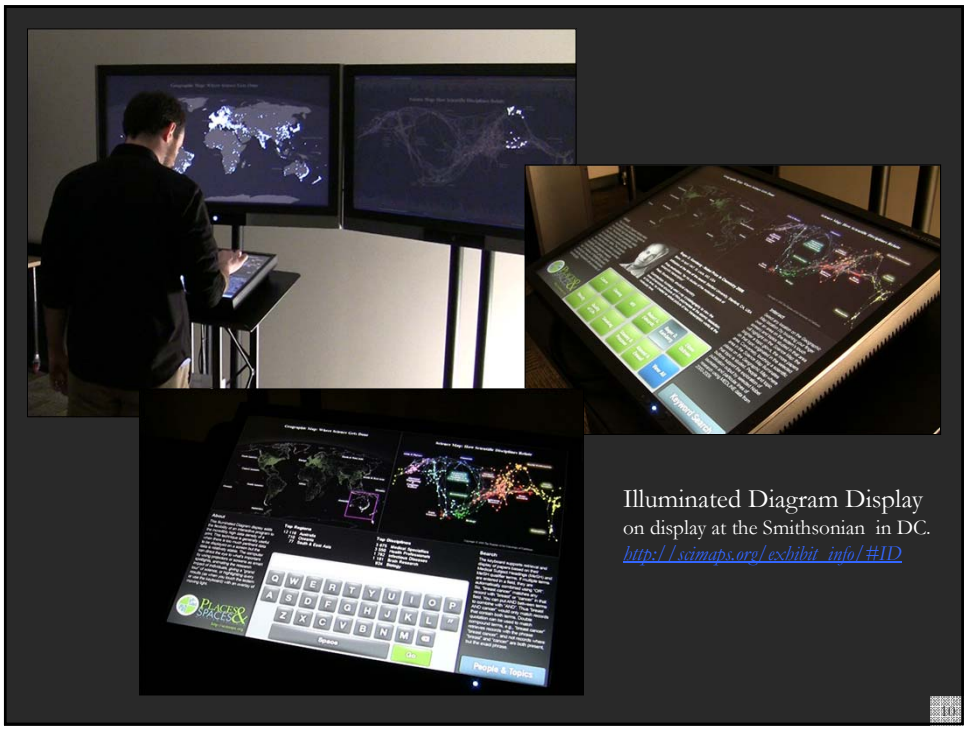
Places & Spaces: Mapping Science Exhibit

scimaps.org

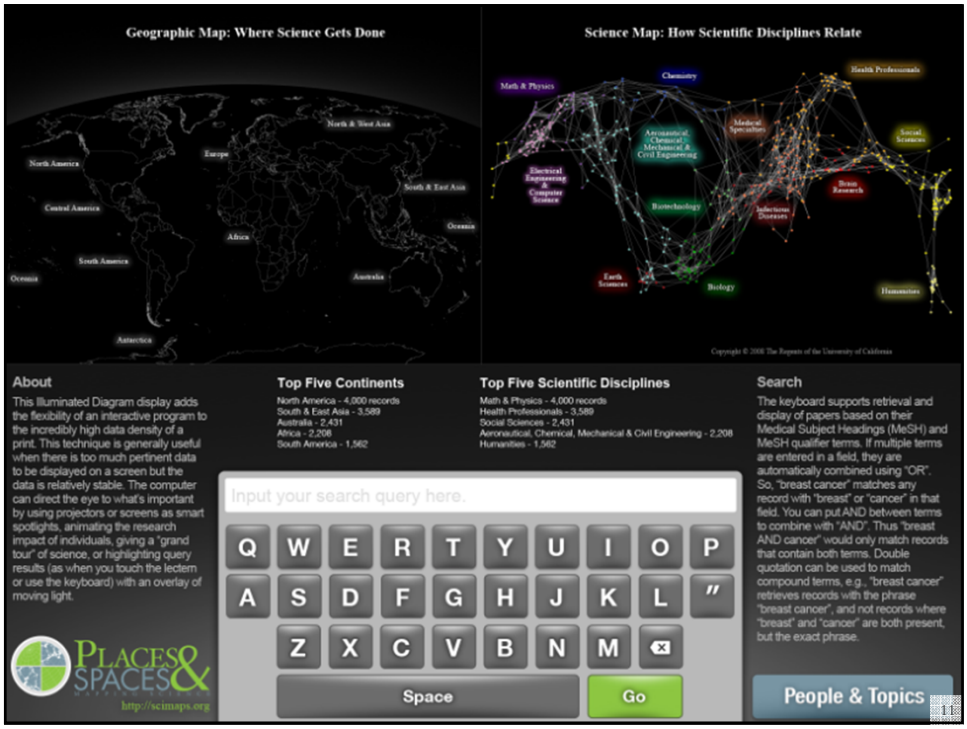
Debut of 5th Iteration of Mapping Science Exhibit at MEDIA X was on May 18, 2009 at Wallenberg Hall, Stanford University, *http://mediax.stanford.edu*, *http://scaleindependentthought.typepad.com/photos/scimaps*



Places & Spaces *Digital Display in North Carolina State's brand new Immersion Theater*



Illuminated Diagram Display
on display at the Smithsonian in DC.
http://scimaps.org/exhibit_info/#ID



Science Maps in "Expedition Zukunft" science train visiting 62 cities in 7 months 12 coaches, 300 m long Opening was on April 23rd, 2009 by German Chancellor Merkel
http://www.expedition-zukunft.de

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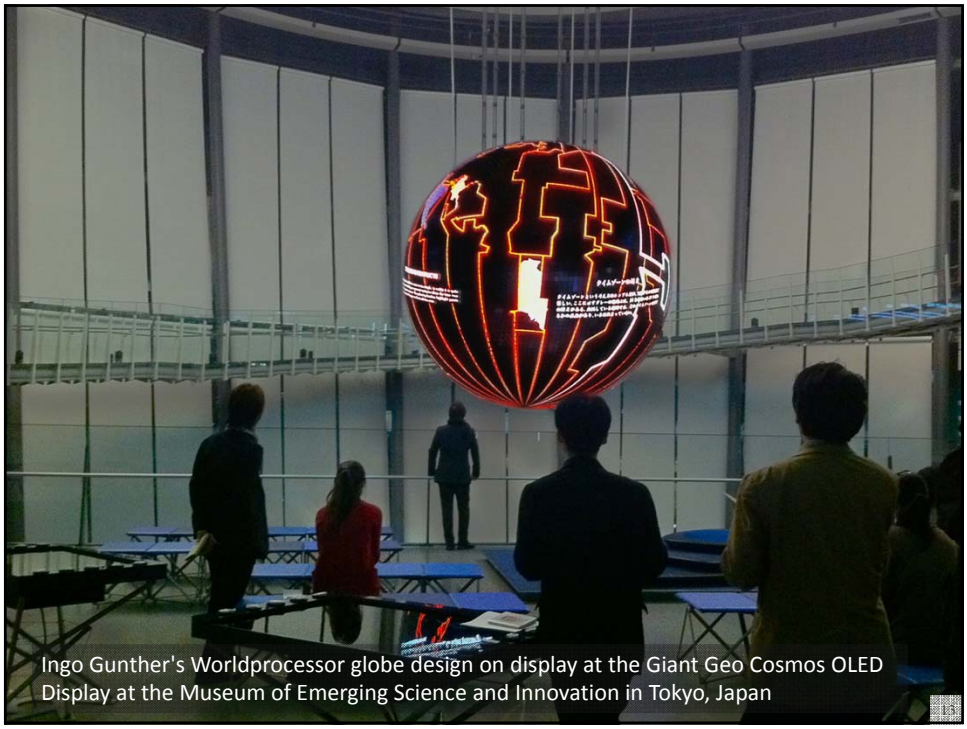
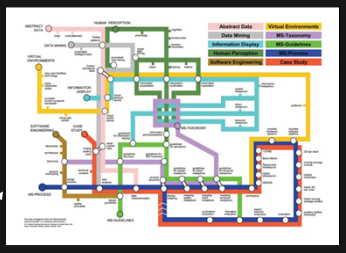


Ingo Gunther's Worldprocessor globe design on display at the Giant Geo Cosmos OLED Display at the Museum of Emerging Science and Innovation in Tokyo, Japan

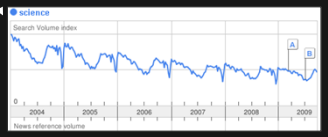
Terra bytes of data

Plug-and-Play Macroscopes

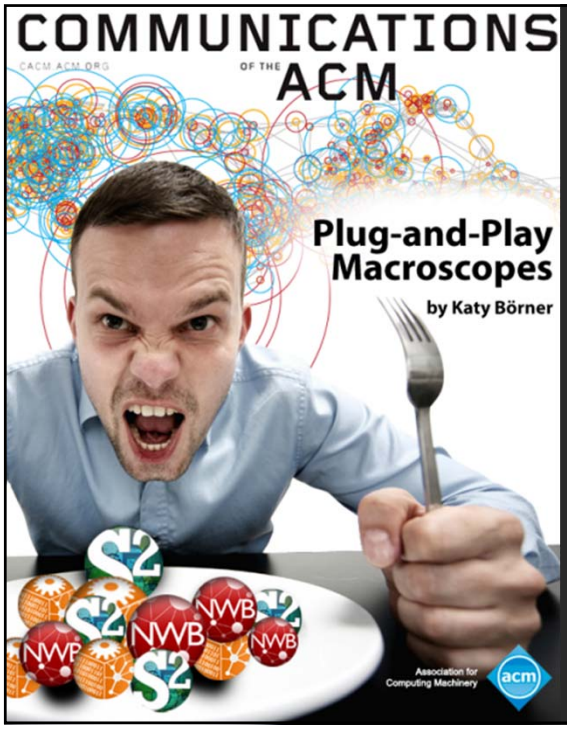


Find your way

Find collaborators, friends



Identify trends



Börner, Katy. (March 2011). Plug-and-Play Macroscopes. *Communications of the ACM, 54(3), 60-69.*

Video and paper are at http://www.scivee.tv/node/27704

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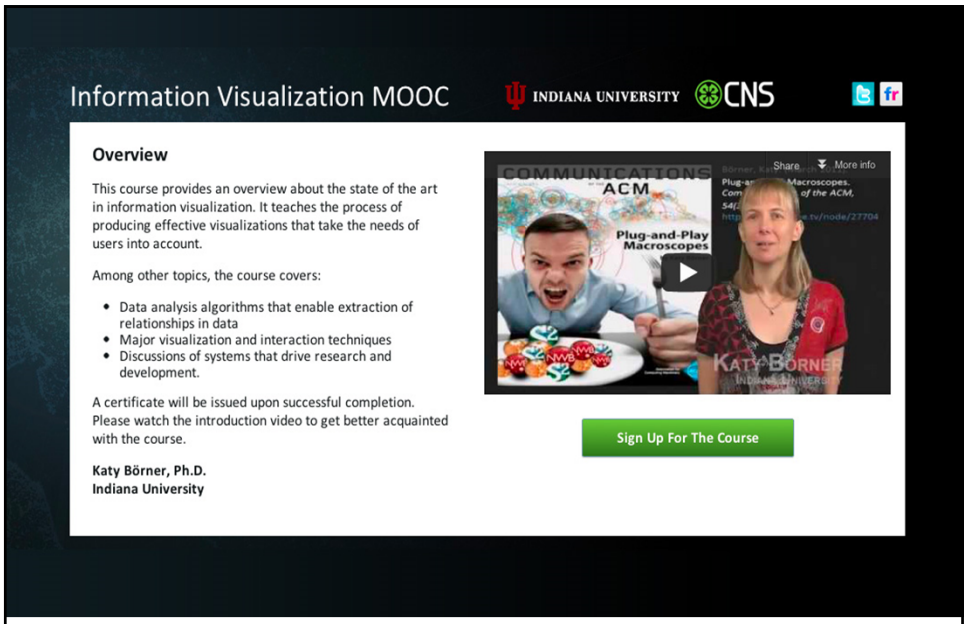

Register for free at http://ivmooc.cns.iu.edu. Class restarted on Jan 28, 2014.

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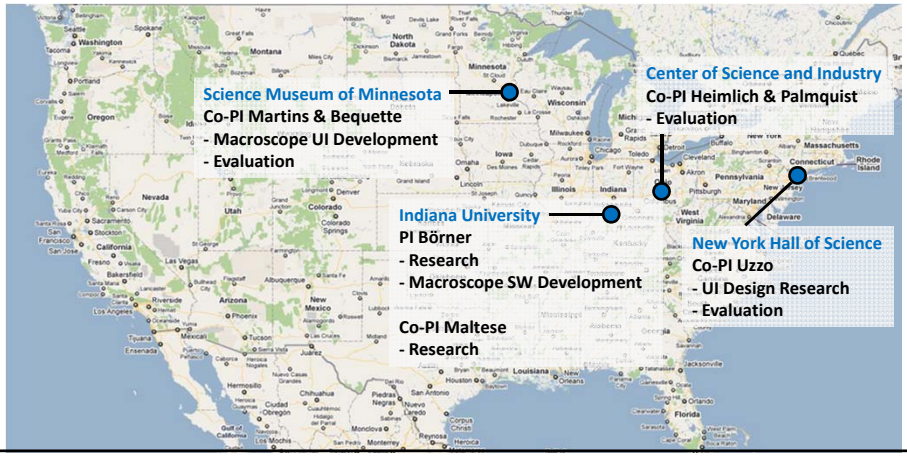
Data Visualization Literacy Studies

The NSF-funded project *Pathways: Sense-Making of Big Data* project examined the data visualization literacy of over 900 youth and adult visitors. Study results will create a foundation for the design of museum exhibits and educational programs that teach museum visitors how to explore, engage, and make better sense of big data.



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References

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Shiffrin, Richard M. and Börner, Katy (Eds.) (2004). **Mapping Knowledge Domains**. *Proceedings of the National Academy of Sciences of the United States of America*, 101(Suppl_1). http://www.pnas.org/content/vol101/suppl_1/

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http://ivl.slis.indiana.edu/km/pub/2007-borner-arist.pdf

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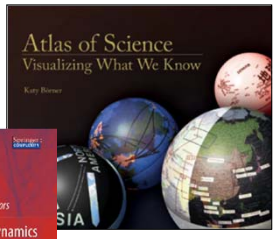
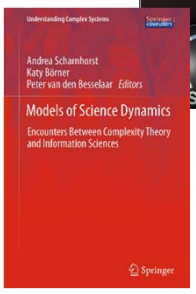
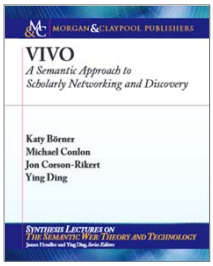
Scharnhorst, Andrea, Börner, Katy, van den Besselaar, Peter (2012) **Models of Science Dynamics**. Springer Verlag.

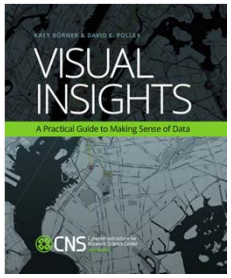
Katy Börner, Michael Conlon, Jon Corson-Rikert, Cornell, Ying Ding (2012) **VIVO: A Semantic Approach to Scholarly Networking and Discovery**. Morgan & Claypool.

Katy Börner and David E Polley (2014) **Visual Insights: A Practical Guide to Making Sense of Data**. MIT Press.









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All papers, maps, tools, talks, press are linked from http://cns.iu.edu

CNS Facebook: http://www.facebook.com/cnscenter
Mapping Science Exhibit Facebook: http://www.facebook.com/mappingscience

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