



SCWS2014
SCIENCE CENTRE WORLD SUMMIT 2014
PUBLIC ENGAGEMENT FOR A BETTER WORLD

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

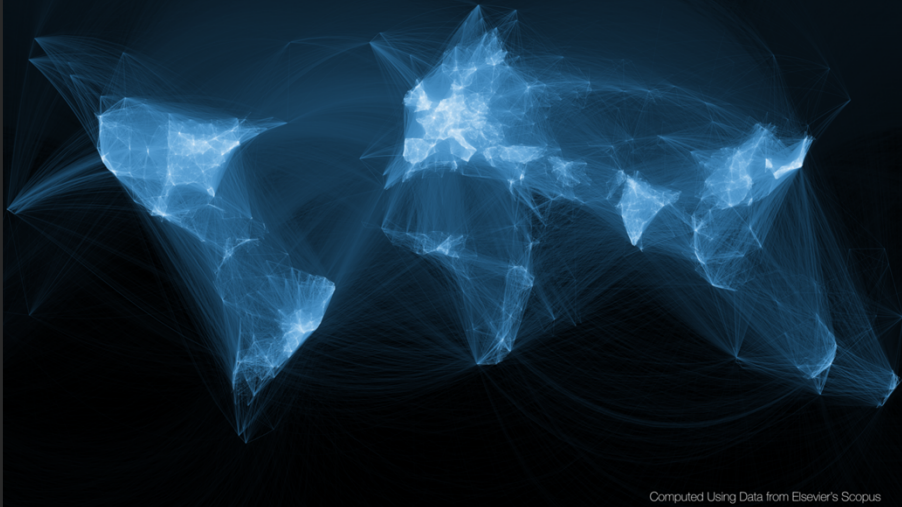
New Technologies for Learning and Engagement

Katy Börner, Indiana University, USA

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




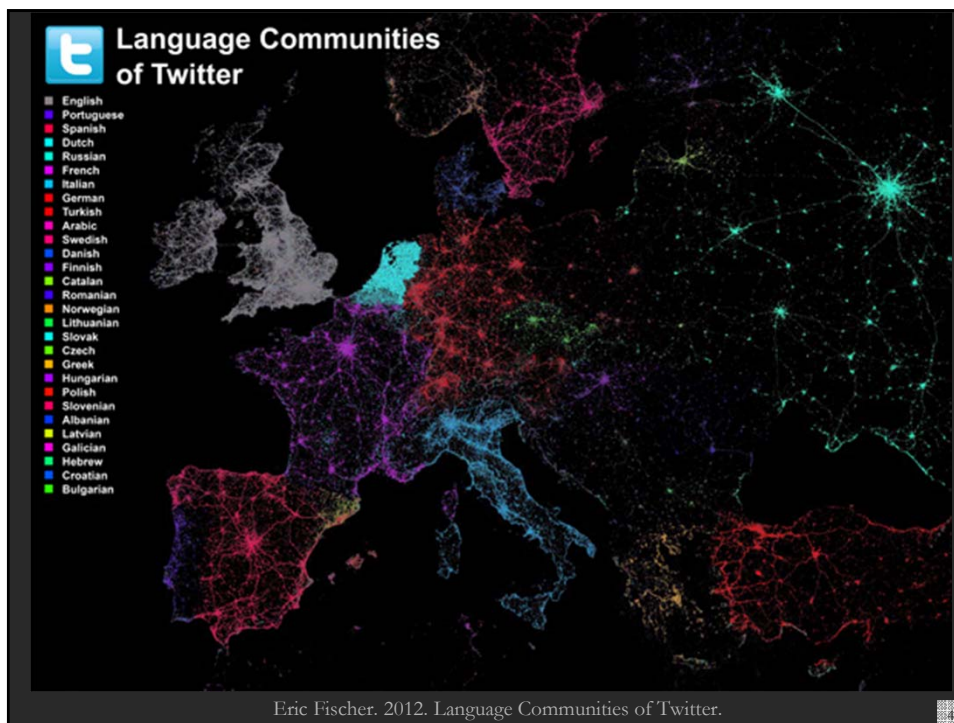
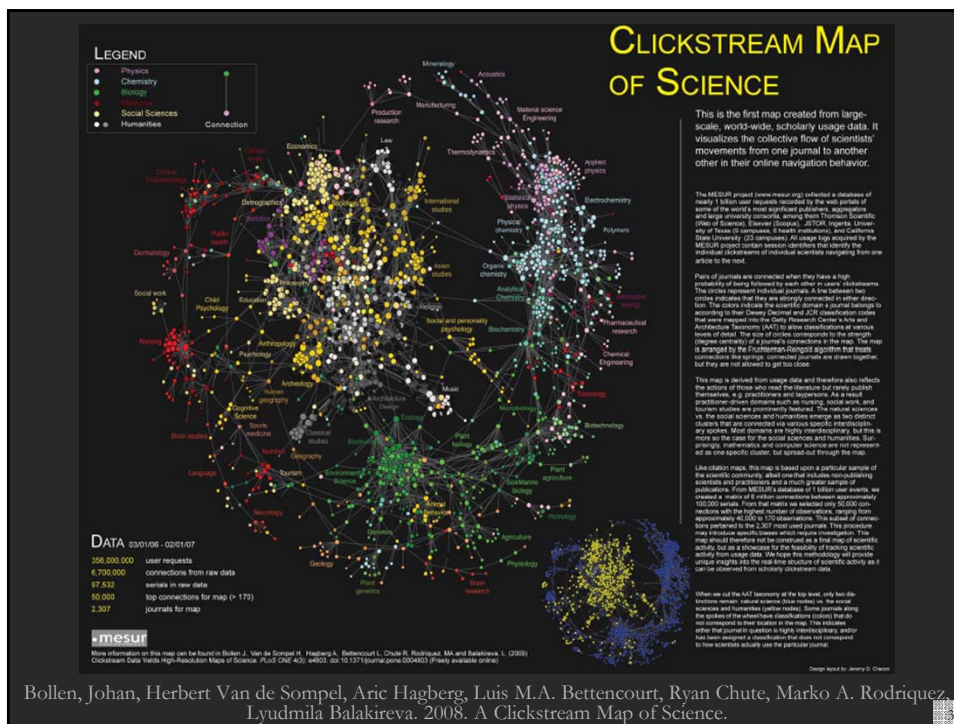
Map of Scientific Collaborations from 2005-2009

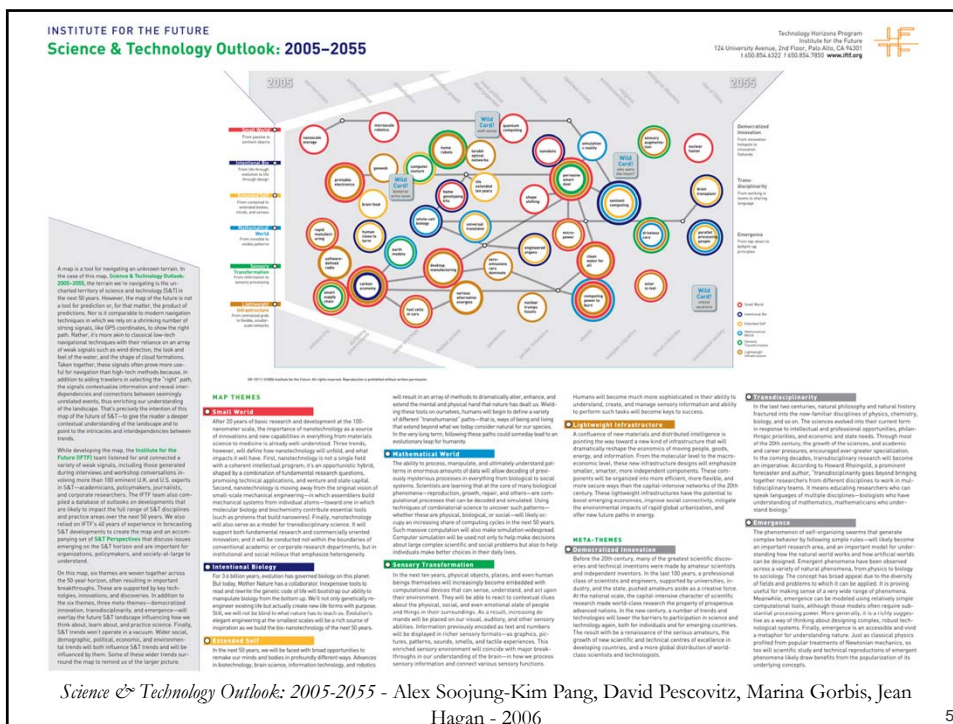


Computed Using Data from Elsevier's Scopus

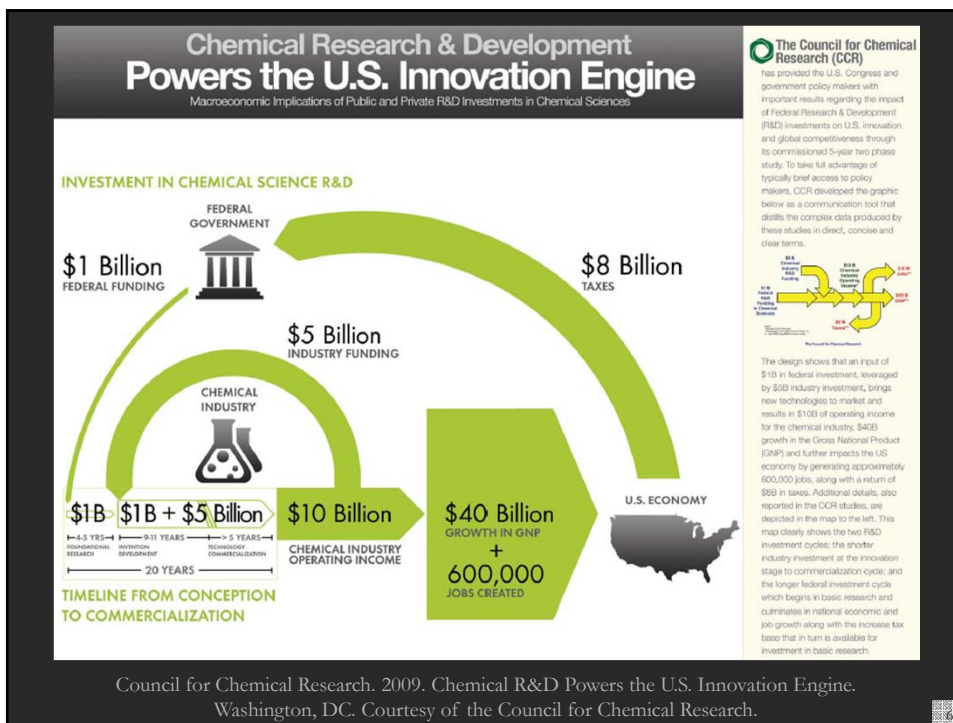
Olivier H. Beauchesne, 2011. Map of Scientific Collaborations from 2005-2009.







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



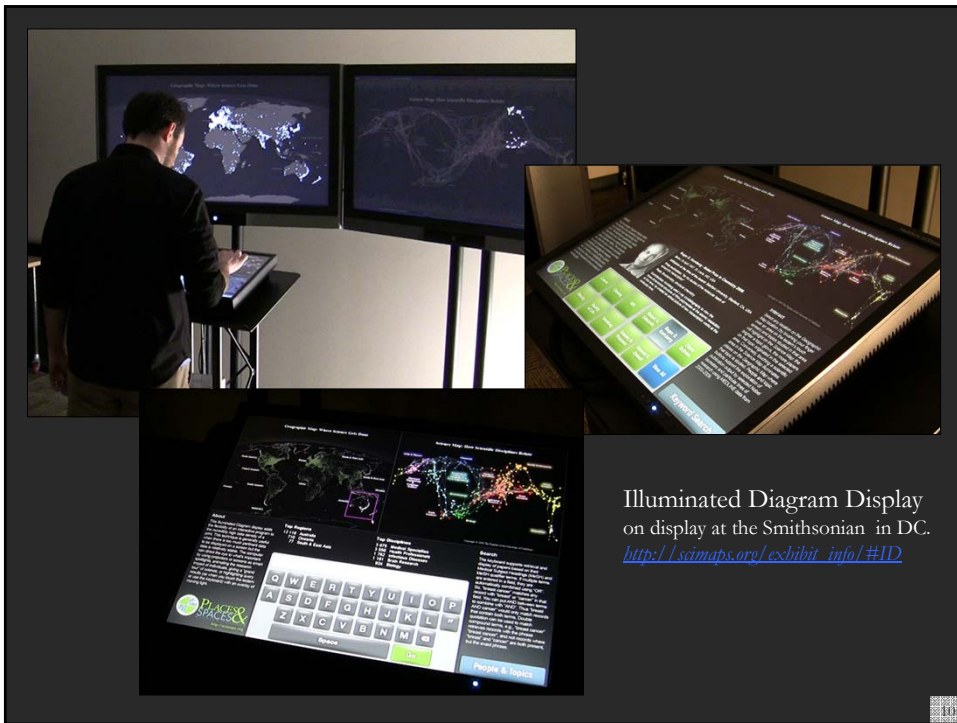
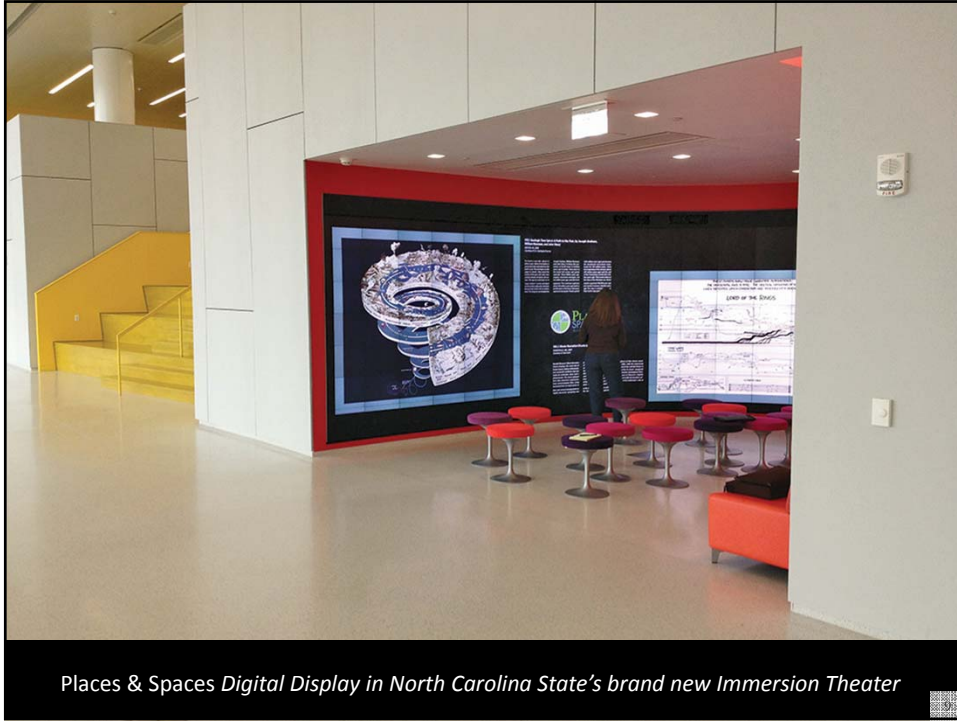
Council for Chemical Research. 2009. Chemical R&D Powers the U.S. Innovation Engine. Washington, DC. Courtesy of the Council for Chemical Research.

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>



Geographic Map: Where Science Gets Done

Science Map: How Scientific Disciplines Relate

About

This Illuminated Diagram display adds the flexibility of an interactive program to the incredibly high data density of a print. This technique is generally useful when there is too much pertinent data to be displayed on a screen but the data is relatively stable. The computer can direct the eye to what's important by using projectors or screens as smart spotlights, animating the research impact of individuals, giving a "grand tour" of science, or highlighting query results (as when you touch the lectern or use the keyboard) with an overlay of moving light.

Top Five Continents

- North America - 4,000 records
- South & East Asia - 3,589
- Australia - 2,431
- Africa - 2,206
- South America - 1,562

Top Five Scientific Disciplines

- Math & Physics - 4,000 records
- Health Professionals - 3,589
- Social Sciences - 2,431
- Aeronautical, Chemical, Mechanical & Civil Engineering - 2,206
- Humanities - 1,562

Search

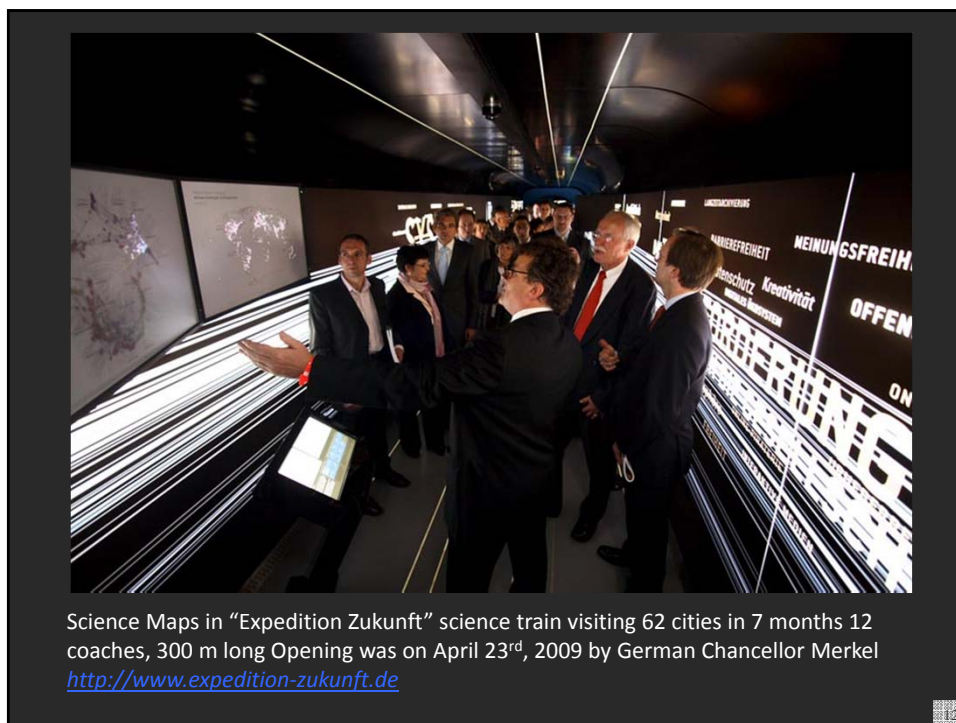
The keyboard supports retrieval and display of papers based on their Medical Subject Headings (MeSH) and MeSH qualifier terms. If multiple terms are entered in a field, they are automatically combined using "OR". So "breast cancer" matches any record with "breast" or "cancer" in that field. You can put AND between terms to combine with "AND". Thus "breast AND cancer" would only match records that contain both terms. Double quotation can be used to match compound terms, e.g. "breast cancer" retrieves records with the phrase "breast cancer", and not records where "breast" and "cancer" are both present, but the exact phrase.

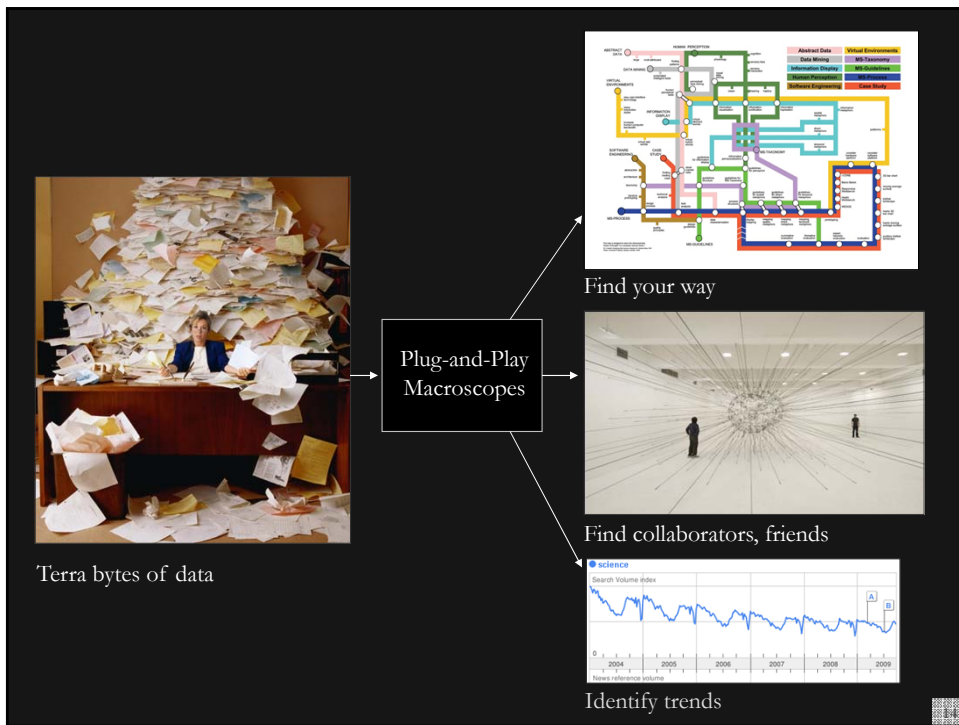
Input your search query here.

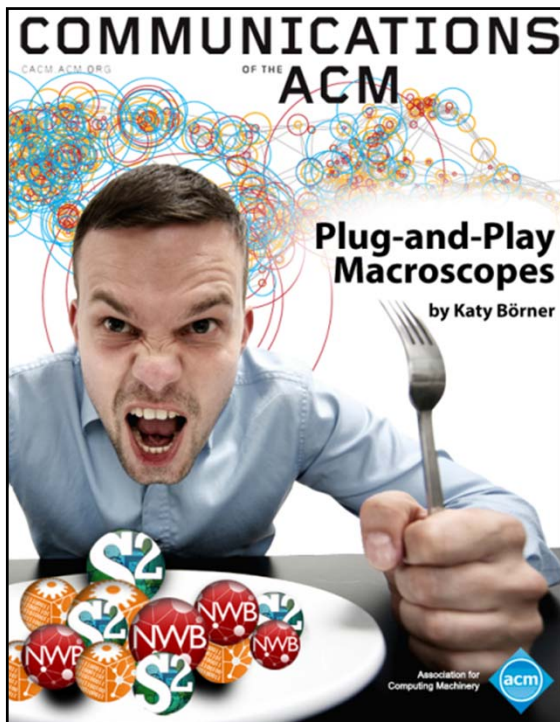
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	"
Z	X	C	V	B	N	M			
Space									Go

<http://placespaces.org>

People & Topics







COMMUNICATIONS
OF THE
ACM

Plug-and-Play
Macroscopes
by Katy Börner

Association for
Computing Machinery
acm

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>

Information Visualization MOOC

INDIANA UNIVERSITY CNS

Overview


This course provides an overview about the state of the art in information visualization. It teaches the process of producing effective visualizations that take the needs of users into account.

Among other topics, the course covers:

- Data analysis algorithms that enable extraction of relationships in data
- Major visualization and interaction techniques
- Discussions of systems that drive research and development.

A certificate will be issued upon successful completion. Please watch the introduction video to get better acquainted with the course.

Katy Börner, Ph.D.
Indiana University



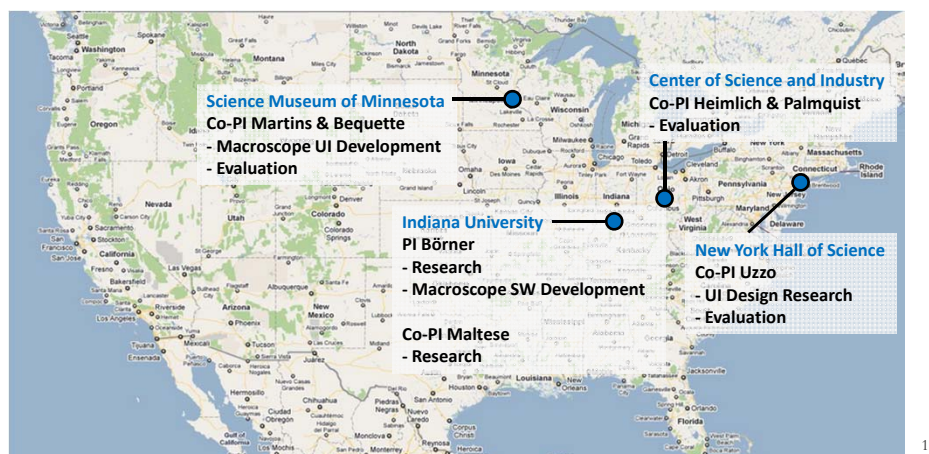
Sign Up For The Course

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.



References

Börner, Katy, Chen, Chaomei, and Boyack, Kevin. (2003). **Visualizing Knowledge Domains**. In Blaise Cronin (Ed.), *ARIST*, Medford, NJ: Information Today, Volume 37, Chapter 5, pp. 179-255. <http://ivl.slis.indiana.edu/km/pub/2003-borner-arist.pdf>

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/

Börner, Katy, Sanyal, Soma and Vespignani, Alessandro (2007). **Network Science**. In Blaise Cronin (Ed.), *ARIST*, Information Today, Inc., Volume 41, Chapter 12, pp. 537-607. <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.



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>