Implications for Future OECD Work

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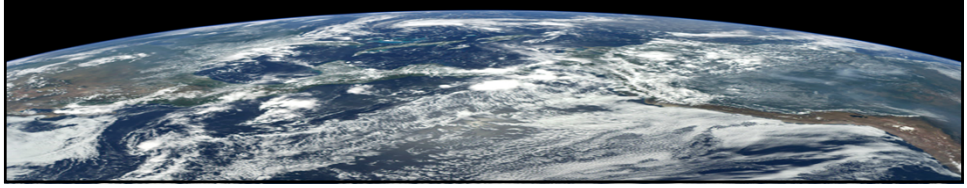
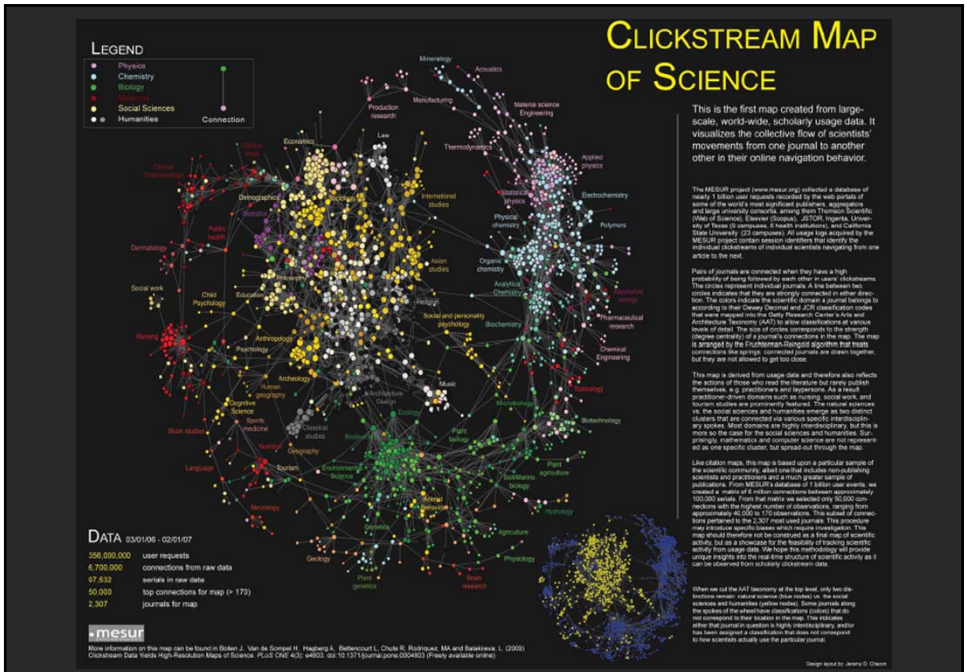
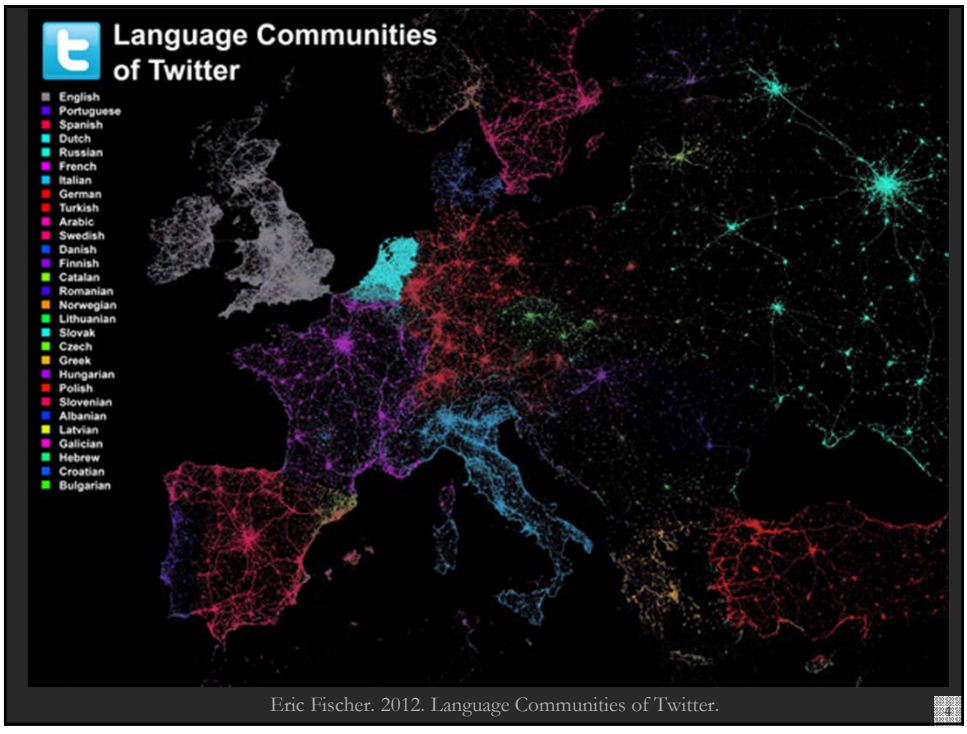


Map of Scientific Collaborations from 2005-2009

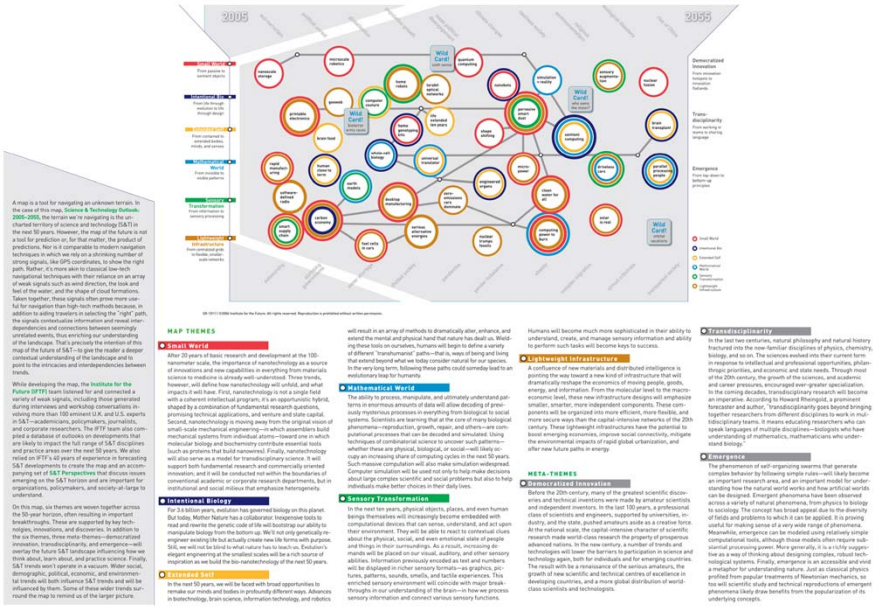
Olivier H. Beauchesne, 2011. Map of Scientific Collaborations from 2005-2009.



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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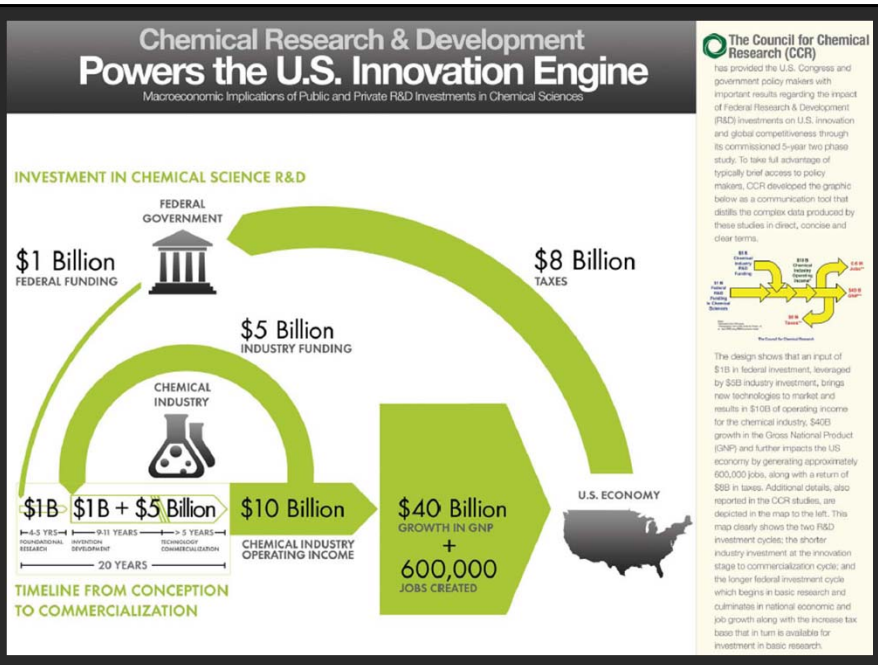

Council for Chemical Research. 2009. Chemical R&D Powers the U.S. Innovation Engine. Washington, DC. Courtesy of the Council for Chemical Research.

Past Workshops (with links to slides)

- **Bibliometric Standards** 1995 in Chicago, IL
- Workshop on Scholarly Databases & Data Integration August 30-31, 2006 at CNS, Bloomington, IN
- NIH Workshop on Identifiers and Disambiguation in Scholarly Work March 18-19, 2010 in Gainesville, FL
- JSMF Workshop on Standards for Science Metrics, Classifications, and Mapping August 11-12, 2011 at CNS, Bloomington, IN
- Standards for Science Mapping and Classifications July 15, 2013 at ISSI, Vienna, Austria
- **Standards Workshop** 2013 at STI in Berlin, Germany
- Science Mapping Standards Workshop Nov. 04-05, 2013 at CNS, Bloomington, IN
- OECD-experts dialogue on scientometrics: Improving the use of bibliometric indicators and analysis for policy-making March 25, 2014 at OECD, Paris, France

Please send me pointers to others.

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WANTED (1995 Chicago Workshop , W. Glänzel's slides with Katy add-ons)

- Terminology and definitions
- Structure and organization of (micro)data that is interoperable so that global, multi-level S&T studies can be run
- Proper documentation of methods – re-runnable workflows
- Robust but easy to use/understand algorithms and tools
- Replicability and validation of results
- Commensurability and comparability
- Level of aggregation—each level needs own standards, indicators
- Improved communication among experts and with policy makers
- Healthy balance of competition and collaboration
- Training for experts (including publishers) in advanced methods and tools in statistics, economics, social science, scientometrics, etc.
- Training for policy makers on appropriateness of tools and indicators
- Education of the general public on the utility and value of S&T

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WANTED (From 2013 STI Workshop, W. Glänzel's slides)

Data sources

- Publication and document types
- Data cleaning and processing
- **Subject classification**

Indicators

- Statistical issues
- Time-related issues
- Normalisation

Good practice

- Situations in which the use of bibliometrics is considered appropriate and situations in which it is not (e.g., individual level bibliometrics – ISSI Plenary and STI Special)
- Distorted behaviour based on policy use and misuse of bibliometric data (Repercussions on the community and scientists' behaviour)
- Transparency of bibliometric research evaluation and interaction with users

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Promising Example: Map of Science and Classification System

- Small: 1996 Map of Science [6]
- Boyack and Klavans: The Backbone of Science, the 2002 Base Map, the Paradigm Map, the UCSD Map of Science, see discussion and comparison in [4]
- Leydesdorff and Rafols: Map of Thomson Reuters subject categories and associated journals [5]
- Moya-Anegón et al. at SCImago: Graphic representation of the Spanish Science Research [7]
- Börner, Klavans, …, Larivière, and Boyack (2012) Design and Update of a Classification System: The UCSD Map of Science. *PLoS ONE* 7(7): e39464. doi:10.1371/journal.pone.0039464, Data is at http://sci.cns.iu.edu/ucsdmap

- SciTech Strategies, OST, CNS, CWTS, SciELO are currently collaborating on a paper-based (WoS + proceedings + books, Scopus, SciELO), multi-level map and classification system. This classification system will have concordances to different S&T, engineering and education taxonomies and classifications.

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Possible Roles for OECD *(This list is VERY extensive list. If one or two items could be implemented collectively this would be a major progress.)*

- Invite (edit?) and publish a dictionary of terminology and definitions—in many languages
- Promote open access to (micro)data and validated tools in support of replicability
- Publish existing uniqueX lists of institutions, funding agencies, etc. for different countries.
- Lead (?) development of S&T, engineering and education classifications and cross-walks/concordances.
- Promote and showcase evaluation and validation of metrics, indicators, models
- User-oriented state of the art reports (Henk)
- Publish key meetings, efforts, projects, e.g., listverv, web sites
- Help bridge the gap between those who develop indicators and those who use them
- Facilitate a more continuous, systematic dialogue via a **Scientometrics Task Force** that involves key producers and users of publication and other data.
- Promote Scientometrics at Blue Sky Conference (Alessandra)

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Upcoming Conferences and Workshops *(Possible venues to continue this discussion)*

- March 25, OECD-Experts Dialogue on Scientometrics, OECD, Paris, France.
- April 10-13, International Network of Research Management Societies (INORMS), Washington, DC.
- May 19-21, 6th Annual Research Development Conference (NORDP), Portland, OR.
- June 2-6, International Conference on Network Science, Berkeley, CA.
- June 23-26, Web Science Conference, Bloomington, IN.
- August 6-8, Science of Team Science + VIVO Conference, Austin, TX.
- Sept 3-5, 19th International Conference on Science and Technology Indicators Conference, Leiden, Netherlands.
- Nov 3-4, Plug-and-Play Macroscopes Workshop, CNS, IU.

2015: 15th International Conference of the International Society for Scientometrics and Informetrics, Istanbul, Turkey

2016: OECD Blue Sky Indicators Conference

Please send me pointers to others.

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