JSMF Workshop on Standards for Science Metrics, Classifications, and Mapping

Date
August 11-12, 2011

Meeting Place
School of Library and Information Science, Indiana University
1320 E. 10th St., Wells Library, Room 001
Bloomington, IN 47405
Wells Library Access Information »
Indiana University Campus Map »

Organizers
Katy Börner
Victor H. Yngve Professor of Information Science, School of Library and Information Science, Indiana University, Bloomington;
Director, Cyberinfrastructure for Network Science Center; Curator, Places & Spaces: Mapping Science exhibit, katy@indiana.edu

Vincent Larivière
Postdoctoral Fellow Indiana University, UQAM (Université du Québec à Montréal)
Dec 1 & 2, 2005: *Mapping Science*  
Workshop at Thomson Scientific, Philadelphia, PA.
April 4, 2006: Mapping Science
Workshop at the New York Academy of Science, New York City, NY.
May 21, 2006: *Modeling Science*

Workshop at Indiana University, Bloomington, IN.
May 29 & 30, 2006: Integrating Semantic and Linkage-Based Data Mining Approaches
Albert Mons & Marc Weber, Knewco visit our Lab/Center.
August 30 & 31, 2006: Scholarly Data and Data Integration Workshop at Indiana University, Bloomington, IN.
at New York Hall of Science, NY.
March 10 & 11, 2008: Knowledge Management and Visualization Tools in Support of Discovery (I)
NSF Workshop at NSF, Washington D.C.
April 7 & 8, 2008: Knowledge Management and Visualization Tools in Support of Discovery (II)
NSF Workshop at New York Hall of Science, NY.
June 17/18, 2009: Mapping the History and Philosophy of Science
NSF/JSMF Workshop at IU, Bloomington, IN.
October 1-2, 2009: How to Measure, Map, and Dramatize Science
NSF/JSMF Workshop at New York Hall of Science, NY.
March 4-5, 2010: Mapping of Science and Semantic Web
NSF Workshop in Bloomington, IN.
March 18-19, 2010: Identifiers and Disambiguation in Scholarly Work
NIH Workshop in Gainesville, FL.
Oct 8-9, 2010: Modeling Knowledge Dynamics
JSMF/COST Workshop Amsterdam, The Netherlands.
Dec 1, 2010: Mapping the Structure and Evolution of Sustainability Science
NSF Workshop at AAAS Headquarters in Washington, D.C.
March 21, 2011: *Modeling and Mapping Science*  
JMFS Workshop *in* Bloomington, IN.
March 25-16, 2011: *Value Added Services for VIVO*
NIH Workshop in Bloomington, IN.
Workshop Goals

This 1 ½ day workshop brings together researchers and practitioners interested in the scientific development and proper usage of science metrics, science classifications, and science maps. Demonstration of existing approaches, tools, and techniques will provide a point of departure for a discussion of challenges and opportunities for developing scientifically sound standards for measuring and communicating the structure and dynamics of science and technology (S&T).

Among others, we will discuss:

S&T Metrics

- Strengths, weaknesses, and limitations of existing output and impact indicators.
- Properties that a good indicator of productivity and impact should have.
- What types of normalization should be performed to account for different disciplines?
- Skewness of distributions and scaling effects.
- Coverage of various databases
- Let’s explicitly avoid University Ranking systems (we don’t want the conversation to devolve into this area)
S&T Classifications
- Strengths, weaknesses, and limitations of existing classifications in bibliometric/science mapping context;
- Properties a good classification should have in a science mapping context.
- Properties a good classification should have in a metrics context. Are classification properties for science mapping and metrics compatible?
- Development new classifications at the paper level that takes into account the nature / methods / objects of disciplines (and history, etc.), but also their citation characteristics;
- Dynamically evolving classifications that can capture data from 1900-today.
- How to classify interdisciplinary papers/journals.

S&T Mapping Standards
- Strengths, weaknesses, and limitations of existing science maps;
- Properties a good science maps and existing/emergent standards that help harmonize existing academic/government/industry standards.
- Align S&T classifications/maps with other ontologies, taxonomies to support cross-walks and mapping.

Cross-Cutting
- Discuss setup of an international 'interest group' that reviews and approves new standards as they become available, analogous to what is common in Semantic Web community.
- Write joint publication in major journal that reviews state of the art and promotes desirable futures.

Given the diverse backgrounds of the participants and the goals of the workshop, we will start with brief self-introductions; followed by three 30 min overview talks that set the stage for the workshop; and then brainstorming and discussion sessions in different team sizes and combinations.
Agenda

Thursday, August 11, 2011

12:00pm  Welcome by Organizers (Katy Börner and Vincent Larivière)
12:15pm  Introduction by Participants (7 min per person/organization)
3:00pm   Break
3:30pm   Overview Talks (15-20 mins plus 5 mins discussion each)
  • Science Metrics by Henk Moed
  • Science Classifications by Caroline Wagner
  • Science Maps by Kevin W. Boyack
  • Mapping to Ontologies by Nigam Shah (remotely)
5:00pm   Break
5:30pm   Discussion of Opportunities and Challenges
7:00pm   Joint dinner at Farm brainstorm in preparation for Friday
Friday, August 12, 2011

8:45am  Breakfast

9:30am  Breakout Session on "Metrics, Classifications and Mapping"
        [Session 1 | Session 2 | Session 3]

10:30am Breakout Session Reports

11:00am Break

11:30am Second Best Ideas

12:30pm Joint Working Lunch

1:30pm Breakout Session on "Evolving Standards"
        [Session 1 | Session 2 | Session 3]

2:30pm Breakout Session Reports

3:15pm Break

3:30pm Interactive Timeline Assembly

4:30pm Planned Collaborations

5:00pm Adjourn

Walk and dinner at Lake Monroe