

# How semantic representations can support scholarly communication

Paul Groth p.t.groth@vu.nl | @pgroth http://www.few.vu.nl/~pgroth



#### Semantic Session: Detecting knowledge-level claims in research articles

Session: Plenary 3

The research article genre has developed a specific structure for the effective communication of scientific results. The title, the abstract, more or less standardized section types, etc. are all structural elements in the service of facilitating comprehension and searchability. These elements are apparent for the reader through formatting, and and their markup makes it possible for search algori ... More

Presented by Mrs. Ágnes SáNDOR on 20/06/2013 at 08:00

#### Semantic Session: Semantic indexing in PubMed

Session: Plenary 3

About 5,000 biomedical journals are indexed and included in the National Library of Medicine's MEDLINE bibliographic database, available through PubMed. MEDLINE is used internationally to provide access to the world's biomedical journal literature. PubMed supports both text searches and searches based on the indexing of the articles in reference to the Medical Subject Headings (MeSH) thesaurus. ... More

Presented by Mr. Olivier BODENREIDER on 20/06/2013 at 07:00

#### Semantic Session: Transformation of keyword indexed collections into semantic repositories

Session: Plenary 3

In the information retrieval context, resource collections are frequently classified using simple knowledge models such as thesauri. However, the limited semantics provided restricts their search and browsing capabilities. This work shows a process that improves these capabilities through the conversion of the selected knowledge model into a domain ontology. The process has been tested with the Eu ... More

Presented by Mr. Javier LACASTA on 20/06/2013 at 07:30

#### Small Data, or: Bridging the Gap Between Smart and Dumb Research Repositories

Session: Plenary 3

Scientific research mostly consists of many tiny niches, with many thousands of small data sets: a 'long tail' effect. So we have a 'Small Data' problem: how do we connect vastly different experimental results, so that they can be used by other scientists? Currently, there are many large, topically agnostic repositories, requiring little metadata or informatics support, which serve an arch ... More

Presented by Dr. Anita DE WAARD on 20/06/2013 at 08:30

# STRUCTURE FOR HUMAN UNDERSTANDABILITY



### WILLIAM STRUNK, JR.

WITH
REVISIONS,
AN INTRODUCTION,
AND
A NEW CHAPTER
ON WRITING
BY

E.B. WHITE

#### FOR AUTHORS

#### MANUSCRIPT FORMATTING GUIDE

This guide describes how to prepare contributions for submission. We recommend you read this in full if you have not previously submitted a contribution to *Nature*. We also recommend that, before submission, you familiarize yourself with *Nature*'s style and content by reading the journal, either in print or online, particularly if you have not submitted to the journal recently.

#### Table of contents

- 1. Formats for Nature contributions
  - 1.1 Articles
  - 1.2 Letters
  - 1.3 Brief Communications Arising and Corrections
  - 1.4 Other types of submission
- 2. The editorial process
- · 3. Presubmission enquiries
- 4. Readability
- 5. Format of Articles and Letters
  - 5.1 Titles
  - 5.2 Text

#### **Extended Data Formatting Guide**

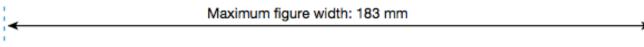
Nature allows authors to supply up to a maximum of ten Extended Data display items (figures and tables), which do not appear in the printed version of the Nature paper but are included online within the full-text HTML and at the end of the online PDF. Authors may combine their Extended Data figures into multi-panelled figures providing they meet the size rules below, but authors may not supply additional figures. Tabulated data can either be integrated into an Extended Data figure as a separate panel (for example, see Extended Data Figure 2, panel d) or be formatted as a separate display item: Extended Data table (for example, see Extended Data Table 1). Extended Data tables must be supplied as images (excluding title and footnote, which should be inserted at the end of the Word file containing the text of the paper), according to the rules below.

Extended Data figures and tables are cited in the text in the same way as the main (print) figures and tables. Unlike the main figures, Extended Data figures are not edited or styled by Nature's art department; for this reason, authors are requested to follow Nature style as closely as possible when creating these figures. Extended Data tables are also not edited by Nature's subediting department.

You will have one opportunity to resupply revised files later in the production process if there are inconsistencies in presentation between the Extended Data figures and the Nature-edited print-only figures.

Please use the following guide to ensure that your Extended Data figure files are in the correct format, and are within acceptable limits in terms of file size, dimension and resolution.

#### Figure sizing and positioning



- . Maximum page dimension is 183 mm x 247 mm.
- . Try to position the figure in the same place on the page each time (i.e., centre).

Figures should be sized such that they fit to a single page (preferably leaving enough room for the legend to be set below, across two columns). However, in exceptional circumstance (for example, if sizing to keep the image and legend to one page results in an illegible figure) the legend may continue to a second page. Supplying figures at greater dimensions will result in larger files that we may not be able to use.

#### Lettering

- All text should be in a sans-serif typeface, preferably Helvetica or Arial.
- Amino acid sequences should be presented in one-letter code in Courier.
- Separate panels in multi-panelled figures should be labelled with 8 pt bold, upright (not italic) and lowercase a, b, c, etc.
- Maximum text size for all other text: 7 pt.
- Minimum text size: 5 pt.
- . Use 'symbol' for glyphs and Greek alphabet.

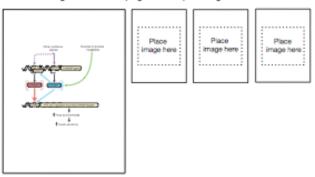
# A a a Courier one-letter code

#### Line weights

Lines and strokes should be set between 0.25 and 1 pt.
 — 0.25 pt
 — 1 pt

#### Arrangement

- Try to keep white space to a minimum when arranging panels within a figure.
- . Place each figure on a new page when uploading online.



Centre the figure

#### Extended Data table formatting

- Add a horizontal rule above and below column headings and at the bottom of the Table.
- Tables can be set at one-column (8.9 cm) or two-column (18 cm) width.
- Use spaces rather than rules to separate blocks of data, but horizontal rules can be used to improve clarity in certain cases.

# STRUCTURE FOR MACHINE UNDERSTANDABILITY (1)











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JUNE 17, 2013



## 3 Ways Concept Maps Help You Learn



Concept maps are pictures that that show how ideas relate to each other. In a concept map, ideas are represented as nodes, and the relationships between them as links with descriptive labels.

Concept maps can be very large and complex—and they can be very small and simple. You can use concept maps to

capture, communicate, and simplify very complex ideas. You can even use a concept map to describe what a concept map is.

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|           |              |  |  |  |

Introduction

Methods

Results & discussion

Conclusions

Supplemental Information

Additional Information and Declarations

Peer Review history

#### Subject areas

Bioinformatics

Computational Biology

Virology

Infectious Diseases

Computational Science

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# Molecular modeling and pharmacophore elucidation study of the Classical Swine Fever virus helicase as a promising pharmacological target

Dimitrios Vlachakis, Sophia Kossida<sup>™</sup>

- Author and article information
- Abstract
- Main article text

Introduction

The viral family Flaviviridae comprises the genera Flavivirus,

```
against CSFV infections through the perspective of the CSFV helicase as a potential
pharmacological target. Notably, to date no antiviral agent is available against the CSFV nor
is expected soon. Subsequently, there is urgent need for new modern and state-of-the-art
antiviral strategies to be developed.">
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pathogen of livestock and belongs to the flaviviridae viral family. Even though there aren't
any verified zoonosis cases yet, the outcomes of CSFV epidemics have been devastating to local
communities. In an effort to shed light to the molecular mechanisms underlying the structural
and drug design potential of the viral helicase, the three dimensional structure of CSFV
helicase has been modeled using conventional homology modeling techniques and the crystal
structure of the Hepatitis C virus (HCV) as a template. The established structure of the CSFV
helicase has been in silico evaluated for its viability using a repertoire of in silico tools.
The ultimate goal of this study is to introduce the 3D conformation of the CSFV helicase as a
```



June 17, 2013 10:35 AM 25 views

#### Autoimmune disease as a risk factor for mood disorder?

by Paul Whiteley in Questioning Answers

Autoimmunity, the process by which the immune system fails to recognise self as self and subsequently targets those self tissues and cells, is something talked about quite a lot on this blog with autism specifically in mind. Part of the very wide and diverse immune-related features which have been discussed with at least some of the autisms in mind, it's not yet altogether clear exactly how and why autoimmunity is linked to behaviour but the association is an interesting one.Sally? @ Wikipe...... Read more »

Benros ME, Waltoft BL, Nordentoft M, Ostergaard SD, Eaton WW, Krogh J, & Mortensen PB. (2013) Autoimmune Diseases and Severe Infections as Risk Factors for Mood Disorders: A Nationwide Study. JAMA psychiatry (Chicago, III.), 1-9. PMID: 23760347



June 17, 2013 10:26 AM 37 views

#### 3 Ways Concept Maps Help You Learn

by Louise Rasmussen in Head Smart

Concept maps are pictures that that show how ideas relate to each other. In a concept map, ideas are represented as nodes, and the relationships between them as links with descriptive labels. Concept maps can be very large and complex—and they can be very small and simple. You can use concept maps to capture, communicate, and simplify [...]... Read more »

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DOI: 10.3102/00346543076003413

Redford, J., Thiede, K., Wiley, J., & Griffin, T. (2012) Concept mapping improves metacomprehension accuracy among 7th graders. Learning and Instruction, 22(4), 262-270. DOI: 10.1016/j.learninstruc.2011.10.007

Biology Medicine Psychology Health

Psychology

Educational

Psychology

Learning

Cognitive Psychology

#### Structured Data Testing Tool

URL

HTML

http://www.globalcognition.org/head-smart/3-ways-concept-maps-help-you

PREVIEW

Examples

Google search results

Google Custom Search

#### Preview

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by Winston Sieck - More by Winston Sieck

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#### NYT Science @nytimesscience

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The New York Times

#### Video: How Do You Make a Building Disappear?

Henry Fountain describes two unconventional demolition methods pioneered by the Japanese.



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Paul Groth @pgroth

Molecular modeling and pharmacophore elucidation study of the Classical Swine Fever virus peerj.com/articles/85/ via @thePeerJ

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#### Molecular modeling and pharmacophore elucidation study of the...

The Classical Swine Fever virus (CSFV) is a major pathogen of livestock and belongs to the flaviviridae viral family. Even though there aren't any verified zoonosis cases yet, the outcomes of CSFV...

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Research Tools and Widgets at MSU Library

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Duration: 00:04:17

Aspect Ratio: Not available.

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## Part 1 thoughts

- It's out there
- Existing widely deployed semantic formats are useful
- Leverage consumer platforms
- Can we build better applications?

# STRUCTURE FOR MACHINE UNDERSTANDABILITY (2)



## Adventures in Semantic Publishing: Exemplar Semantic Enhancements of a Research Article

David Shotton , Katie Portwin, Graham Klyne, Alistair Miles



http://www.prismstandard.org/

http://www.w3schools.com/tags/html5\_time.asp

http://geotags.com/geo/geotags2.html

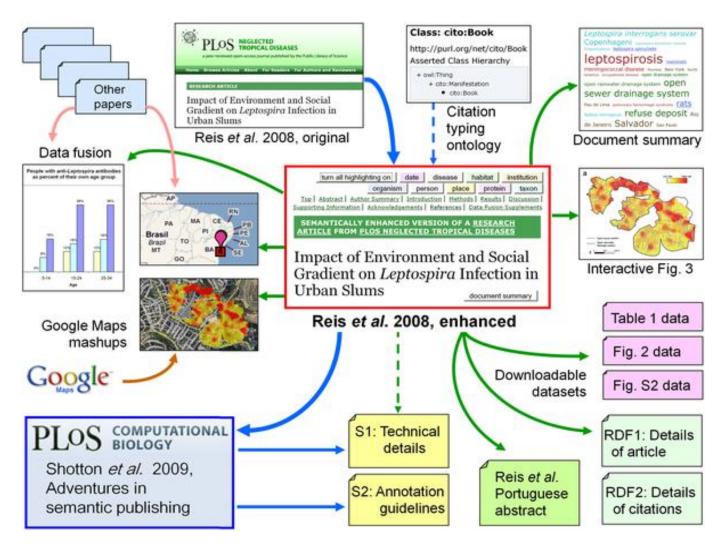
http://purl.org/net/cito/

http://semanticpublishing.wordpress.com



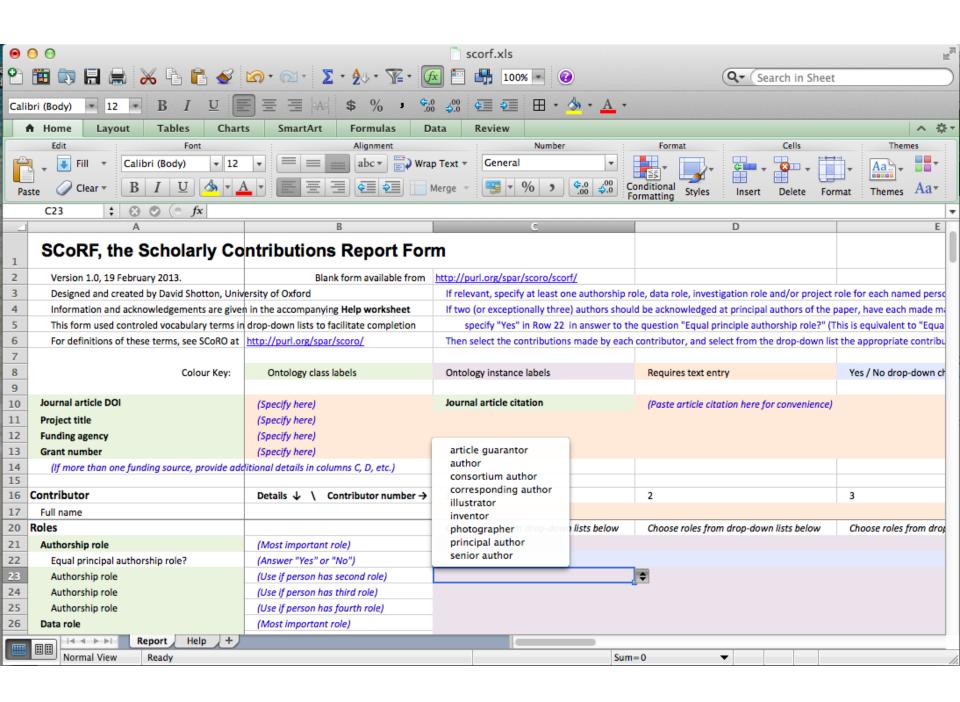
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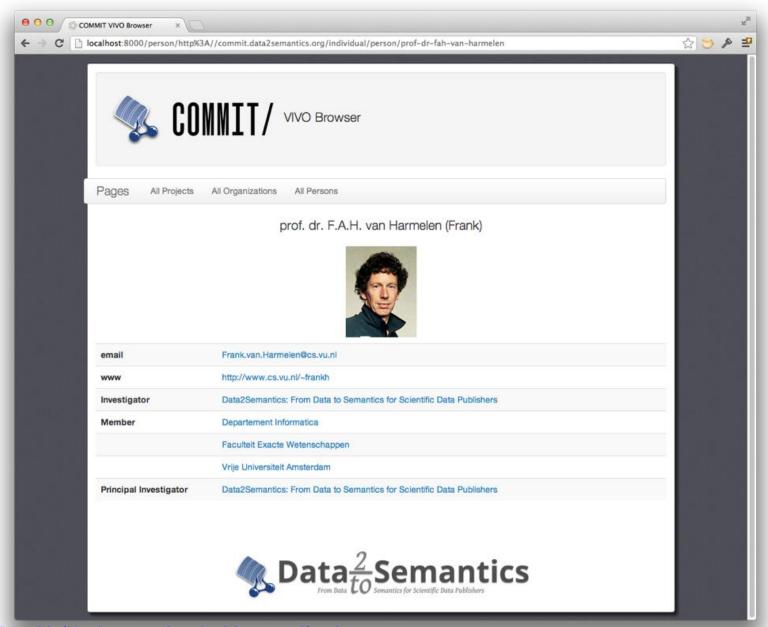




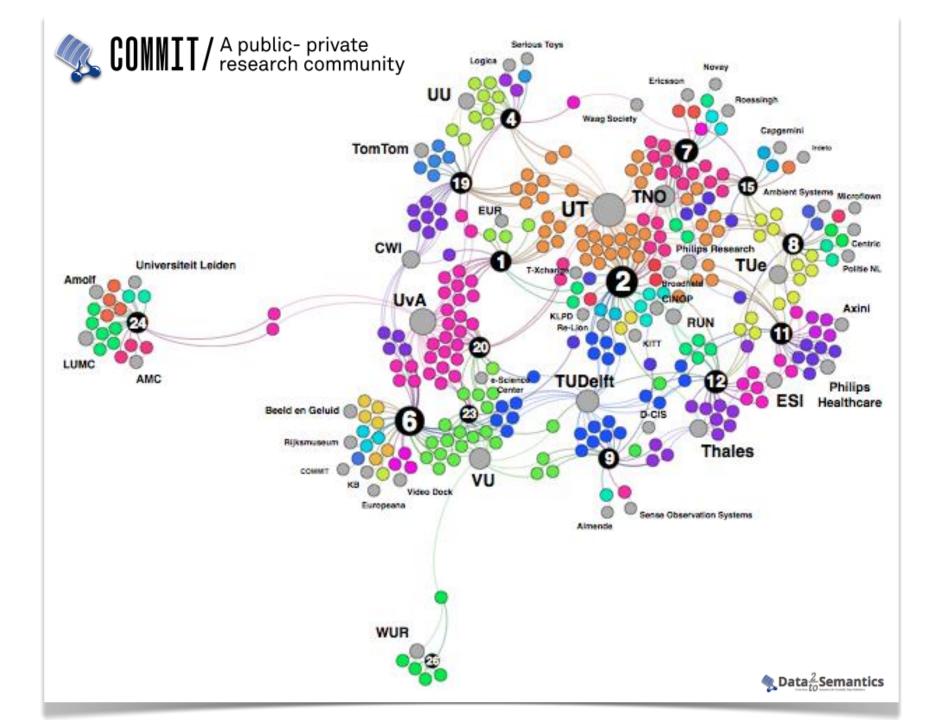
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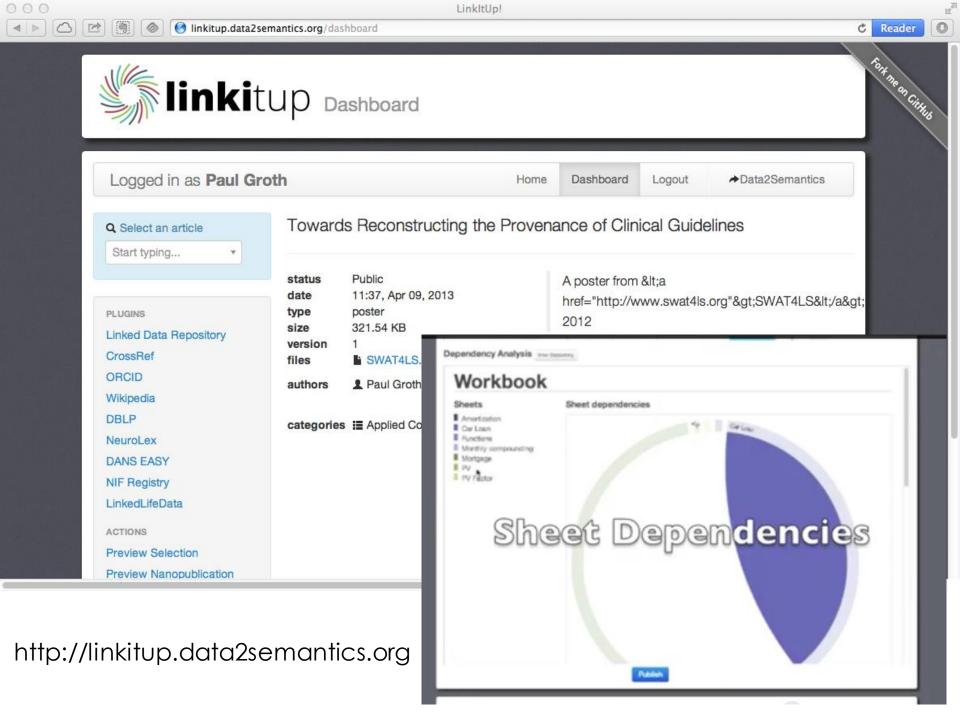






https://github.com/Data2Semantics/VIV O-Browser







#### **PROV-Overview**

#### An Overview of the PROV Family of Documents

#### W3C Working Group Note 30 April 2013

This version:

http://www.w3.org/TR/2013/NOTE-prov-overview-20130430/

Latest published version:

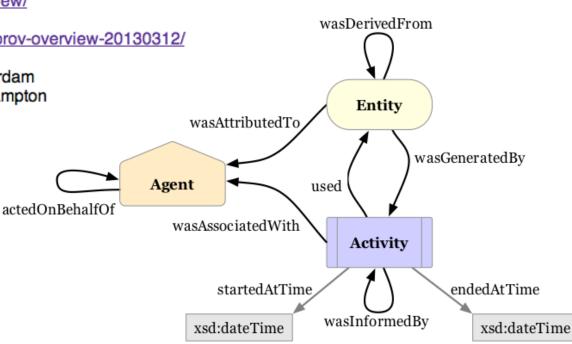
http://www.w3.org/TR/prov-overview/

Previous version:

http://www.w3.org/TR/2013/WD-prov-overview-20130312/

Editors:

Paul Groth, VU University Amsterdam Luc Moreau, University of Southampton 66 implementations
41 systems
22 vocab/datasets
3 validators





Developer Home

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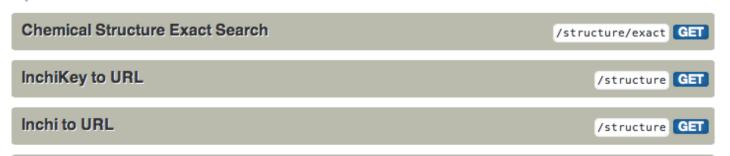
#### **OpenPHACTS API Active Docs**

The response template for each operation colour coded as follows:

- Required elements that always return a single value.
- Required elements that return either a single value or an array.
- Optional elements that always return a single value
- Optional elements that return either a single value or an array.

#### Operations

OpenPHACTS API



# http://dev.openphacts.org

#### http://www.chembionavigator.org

#### Aspirin

| Filter:         |         | Source : | All Sources | ~ |
|-----------------|---------|----------|-------------|---|
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| ConceptWiki     |         |          | Naomi       |   |
| Weight<br>Naomi | 180.158 |          | ChemSpider  |   |
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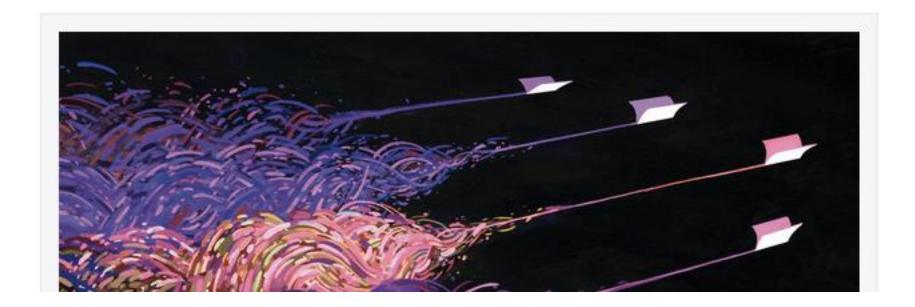
## Scholarship: Beyond the paper

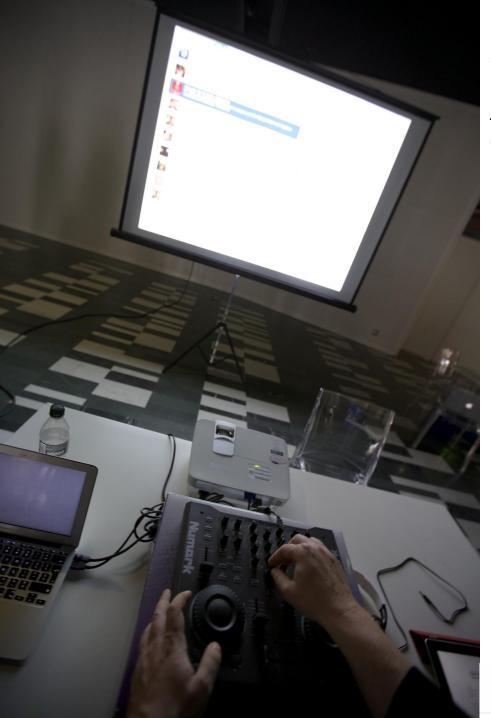
#### **Jason Priem**

Nature 495, 437–440 (28 March 2013) | doi:10.1038/495437a Published online 27 March 2013



The journal and article are being superseded by algorithms that filter, rate and disseminate scholarship as it happens, argues Jason Priem.





Paul Groth and David A. Shamma. 2013. Spinning data: remixing live data like a music dj. In CHI '13 Extended Abstracts on Human Factors in Computing Systems (CHI EA '13). ACM, New York, NY, USA, 3063-3066. DOI=10.1145/2468356.2479611 http://doi.acm.org/10.1145/2468356.2479611