Elsevier Data and Publications linking

Hylke Koers
Elsevier, STM Journals
Access vs. Importance

(Researchers, N = 3824; study by Publishing Research Consortium, 2010)

Highly important AND easily accessible

Research articles

Important but NOT easily accessible

Data sets/Data models/Algorithms & Programs

Mean Importance of access

Ease of access (Easy or Fairly Easy)

High

Low

Research articles

Clinical guidelines

Prof/Trade publications

Patent information

Technical info.

Conference proceedings

Books/Monographs

Historical archives/public records

Market Research reports

Doctoral theses/dissertations

ELSEVIER


STM
Location and Linking

Where would you be willing to submit your research data?

![Bar chart showing data submission preferences:]

- Digital archive of organisation
- Digital archive (data centre) of your discipline
- Publisher (data combined enclosed with)
- External web service (e.g. Google Base)
- I do not want to submit digital research data
- Other

Do you think it is useful to link underlying research data with formal literature?

![Pie chart showing response to the question:]

- Yes: 85%
- No: 15%

(Researchers, N=1202; study by EU PARSE. Insight, 2009)
STM / ALPSP Position on Data Sets

“... believe that, as a general principle, data sets, raw data outputs of research, and sets or subsets of that data should wherever possible be made freely accessible to other scholars ...”

(Statement from STM & ALPSP, June 2006)

“... Raw research data should be made freely available to all researchers. Publishers encourage the public posting of the raw data outputs of research. ...”

(Brussels Declaration on STM Publishing, November 2007)
What does this mean?

- Elsevier does *not* “copyright” raw datasets that are submitted with an article
  - Such datasets can be made freely available by author
  - Journals could request authors to submit data (elsewhere)

- SciVerse ScienceDirect supports the discoverability of datasets through connecting them with the formal research article
  - If supported by scientific community and journal editors
  - By linking from entity, article or through application
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Fig. 1. Location of the NPI core in the structure of the ternary complex of the phage T7 DNA polymerase. The image is adapted from Franklin et al. (1993). The five domains of the T7 DNA polymerase are colored as follows: the N-terminal domain is brown, the exonuclease domain is light blue, the palm domain is green, the $\beta$ helix of the fingers domain is lime green and the $\gamma$ helix is yellow, and the thumb domain is magenta. The linker peptide is illustrated as a red thread. The.

A movie describing the relationships between open and closed forms of the T7 DNA polymerase is provided. The open, ternary complex of the T7 DNA polymerase with DNA containing a templating abasic site (Protein Data Bank ID: 1G9G) and the closed, ternary complex with DNA containing a templating A and an incoming dTTP (PDB ID: 1G9G) were aligned via their palm domains (68 and 573–729). The morph between open and closed forms of the DNA polymerase can be generated with the program LSQMAN. The abasic site in the open complex was replaced with an adenine, the dTTP from the ternary complex was removed, and residues 585–534 of the fingers domain of both complexes were removed.
Linking from an article

- Author-posted at repository
- Automatic connection between Elsevier and repository

**Strahedron**
14 March 2008, Pages 2196–2200

**Title:** tripodal quinoline excimer

Suvarnari, Assam 781036, India
Link Using DOI

A molecule that has been designed to be used to confirm the selective recognition of phosphate ion with the elegant fluorescence properties.

**Bioinformatics information**

Avijit Pramanik, Gopal Das

*An efficient phosphate sensor: tripodal quinoline excimer transduction*

Strahedron, Volume 66, Issue 11, 14 March 2008, Pages 2196–2200
http://dx.doi.org/10.1016/j.tet.2008.01.049

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**Export citation**

Crystallographic Data

View Record in Scopus
Dataset linking: how does it work?

- Based on image-based linking
- SD article asks for a “data set image” from CCDC
- If data available, CCDC shows image with link to CCDC
- If no data available, CCDC shows 1-pixel transparent image (which is de-facto invisible for the user)
Dataset integration: how does it work?

USER

SD Article

link

SD Server

articles

CCDC Server

data sets

USER

SD Article

SV app

SD Server

Research Data Server

articles

data sets
SciVerse Applications: What is it?

- Integrates data and articles
- Puts data in the proper context
- Discovers remote data
Pulling data in from Protein Data Bank

- Author-tagged
- Data from PDB
- 3D Visualisation
  - Select
  - Zoom
  - Rotate
- All inside article
Pulling data in from Gene Data Bank

- Author-tagged
- NCBI gene viewer
- Functionality to drill down deeply into gene information
- All inside article
PANGAEA displaying data availability

- PANGAEA-hosted
- Author-posted data
- Real-time match
- Full Google Maps functionality
- Links to PANGAEA
- All inside article
Exoplanets+

- Apps for Science Challenge
- Extracts exoplanets (extrasolar planets) from articles and displays rich data alongside
- Displays data from:
  - Exoplanets.org
  - Exoplanet.eu
  - Visual Exoplanet
  - NStED
  - SIMBAD Astronomical DB

Abstract
In this paper, we focus on exoplanet properties and the importance of habitability. We present a new method to determine the habitability of exoplanets, which is based on the analysis of their climatological conditions. We find that some exoplanets have habitable conditions, and we discuss the implications of these findings for the search for life in the universe.

Keywords
Habitable zone, Exoplanet, Climate, Habitable conditions

1. Introduction
The search for exoplanets is one of the most active areas of research in astronomy. Most of these planets are too far away to support life as we know it, but there is a possibility for habitable conditions at the surface of some extrasolar giant planets that are positioned within the habitable zone (HZ). Furthermore, Earth-like exoplanets in 0-1 AU could have stable orbits with habitable conditions possible (Orosz et al., 2012). Known exoplanets lack scientists to suppose that there must be a (Marcy et al., 2003) and (Marcy et al., 2005). A planet with a mass of 1.0 Earth and a distance of 0.01 AU from the central star (Marth et al., 2012) seems to be a rocky super Earth. It is clear that the planet cannot be habitable.
Summary (1)

1. Elsevier supports freely accessible data sets

2. SciVerse ScienceDirect enables wide discoverability of related data sets at data repositories through entity / article linking or article interoperability

3. SciVerse Applications enable data sets to be further exposed, and be put into the context of the article, further increasing value of article and data sets

4. Elsevier invites data repositories to collaborate!
Summary (2)

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