How can data journals support data sharing and discovery?

Guy Jones, Chief Editor, *Scientific Data*

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What needs to change?

“The webinar series will focus on how data is enabling research – the current challenges and examples and how a better future can be created using chemistry data.

It will showcase current and planned initiatives to **develop standards and tools, research infrastructures, and developing cultures to support Findable Accessible Interoperable Reusable (FAIR) chemistry data preparation, publication and reuse.”

What can we use in the meantime?

Journal publishing
Modifying extant infrastructure to solve a new(ish) problem

Technical checks, peer review, typesetting, publication

Scientific discoveries → Manuscript → (Improved) manuscript → Discoverable information

+ Supplementary information
Journal Data publishing
Modifying extant infrastructure to solve a new(ish) problem

Technical checks, peer review, typesetting, publication

A dataset (in a lab) → Data set description (manuscript) → (Improved) manuscript + dataset → Discoverable information

deposition

Discoverable dataset (in a repository) → Cited (in reference list)

Discoverable dataset (in a repository) → Supplementary information

DataCite

DataCite

Crossref

Crossref

DOI

DOI

PDF

PDF
Start with a dataset
Deposited within a repository

The State of Open Data 2022


We're proud to release our seventh State of Open Data report.

PubMed Search results

Data citation
What else does a Data Descriptor do?
Practical details on provenance, contents, and trustworthyness
Support FAIR via (data) publishing policy

**Data deposition in repository**
- Supports the use of persistent identifiers - DOIs for datasets, registered with a suitable metadata registration agency (e.g. DataCite)
- Embargos during peer review, anonymous access for reviewers and no barriers to access upon publication (e.g. application processes, paywalls)
- "Download All" – search, visualisation, dashboards, et al provide useful functionality and save time for certain tasks, but repositories should offer the full datasets

**Clear, Open Licences**
- CC0 and CC-BY, or their equivalents

**Data citation**
- Built on DOIs and metadata deposition with CrossRef and DataCite

**Community data standards, useable formats, and share raw and processed data**

**Legal and ethical protection** - personal data, third party data, sensitive human data
Subject: Breath

Physical, biological, social, environmental, medical, computational science & engineering
Peer review

• Readers can download and use the data without bias
• It provides an alternative channel for research publication
• Counterbalances the extra steps
• Sound science publishing model – we don’t make editorial assessments on perceived impact
Thanks to

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