



Open Life Science

# Open Data

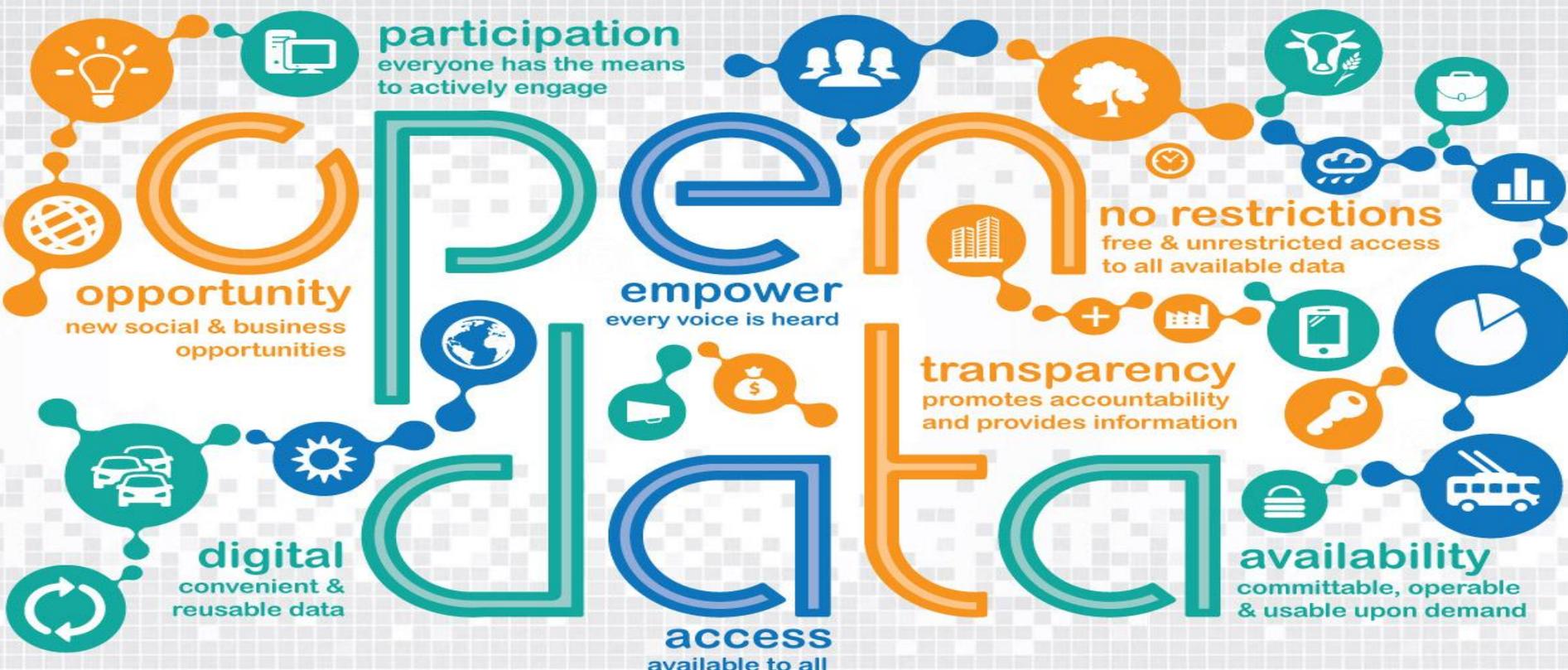
Paula Andrea Martinez  
@orchidoo

2020-10-08

DOI [10.6084/m9.figshare.13065308](https://doi.org/10.6084/m9.figshare.13065308)



Attribution 4.0 International (CC BY 4.0)



### Availability & Access

Open data must be available as a whole and at no more than a reasonable reproduction cost, preferably by downloading from the internet in a convenient and modifiable form.

### Reuse & Redistribution

Open data must be provided under terms that permit reuse and redistribution including the interoperability with other datasets.

### Universal Participation

Everyone must be able to use, reuse and redistribute - there should be no discrimination against fields of endeavour or against persons or groups.

# Open data

Open data is data that can be freely used, re-used and redistributed by anyone

[What is open data? from the opendatahandbook.org](http://opendatahandbook.org)



*an  
unusual  
invitation*

Image by [Bryan Mathers](#) CC BY-SA

# 5 Stars of open data

★	make your stuff available on the Web (whatever format) under an open license
★★	make it available as structured data (e.g., Excel instead of image scan of a table)
★★★	make it available in a non-proprietary open format (e.g., CSV instead of Excel)
★★★★	use URIs to denote things, so that people can point at your stuff
★★★★★	link your data to other data to provide context

# Data Ethics - all the way

Data ethics is in each step  
of the data product life cycle.



Funding



Motivation



Project  
Design



Data Collection  
& Sourcing



Analysis



Interpretation



Communication  
& Distribution

By [Heather Krause](#), [February 6, 2019](#) In [Case Studies](#), [Experts](#)

# Linked data > the reason that open data exists

Any data exchange ecosystem requires **standards** - a **syntax** that provides a way to organize knowledge for subsequent retrieval.

Vocabularies/Ontologies > See [W3.org](http://W3.org)

It explicitly describes the nature of that **relationship**. By providing **context** to its **connection**.

**It creates knowledge**

# FAIR principles

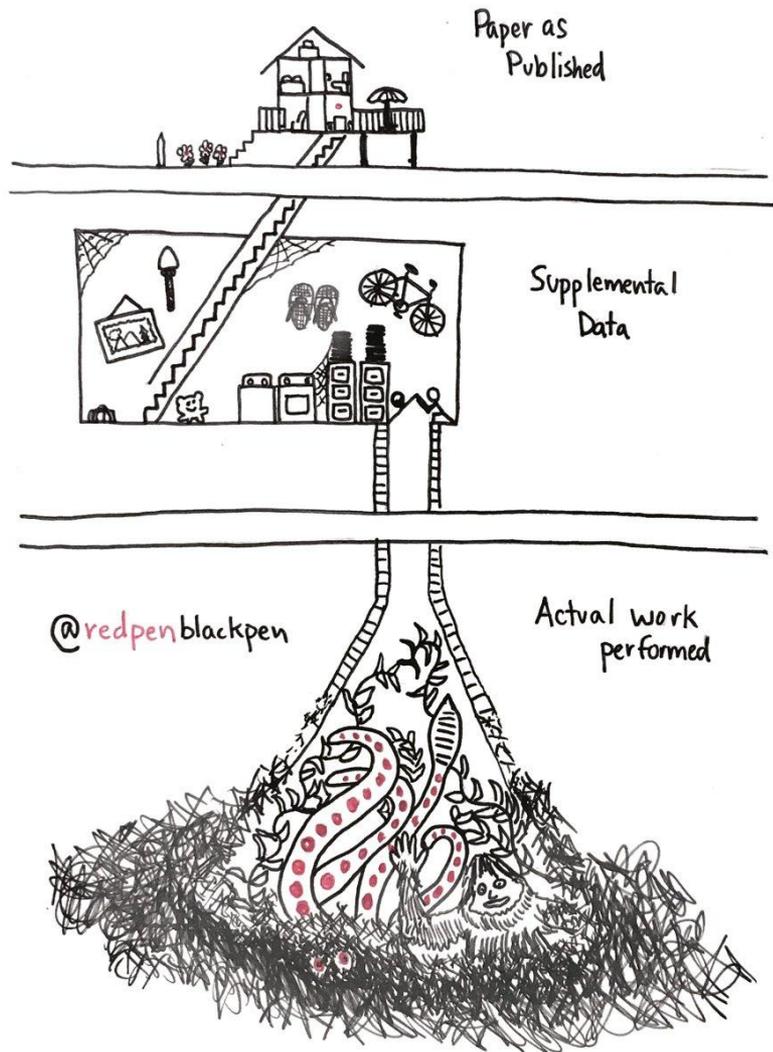
Findable

Accessible

Interoperable

Reusable

[The FAIR guiding principles for scientific data management and stewardship \(Wilkinson 2016\)](#),  
[Go-FAIR.org](#), [FORCE11 FAIR Data principles](#),  
[Towards FAIR principles for research software \(Lamprecht, 2019\)](#), [RDA FAIR for research software](#)



## Projects/communities

- [Open Data Handbook](#) by the [Open Knowledge Foundation](#)
- Read more DCC Digital Curation Centre - [Open data](#)
- [Foster Open Science](#) - Open data materials
- [The Turing Way](#) - reproducible research
- OpenCon - a global conference [@open\\_con](#)
- [Research data Alliance](#) - building the social and technical infrastructure to enable open sharing and re-use of data.

Around the world we are facing a range of social, economic and environmental challenges. Do you think open data can help? - Look for a hackathon locally or online, use open data portals.

# Thank you!

EVERYONE ON THE ROAD TO OPEN SCIENCE



OPEN DATA



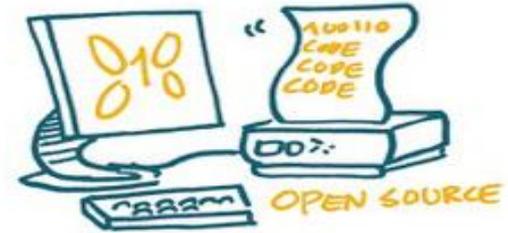
OPEN ACCESS



OPEN EDUCATIONAL RESOURCES



CITIZEN SCIENCE



OPEN SOURCE



You can reach out to [@orchidoo](#) on twitter

On the road to Open Science (By Patrick Hochstenbach CC BY 4.0)