Fair data and open access

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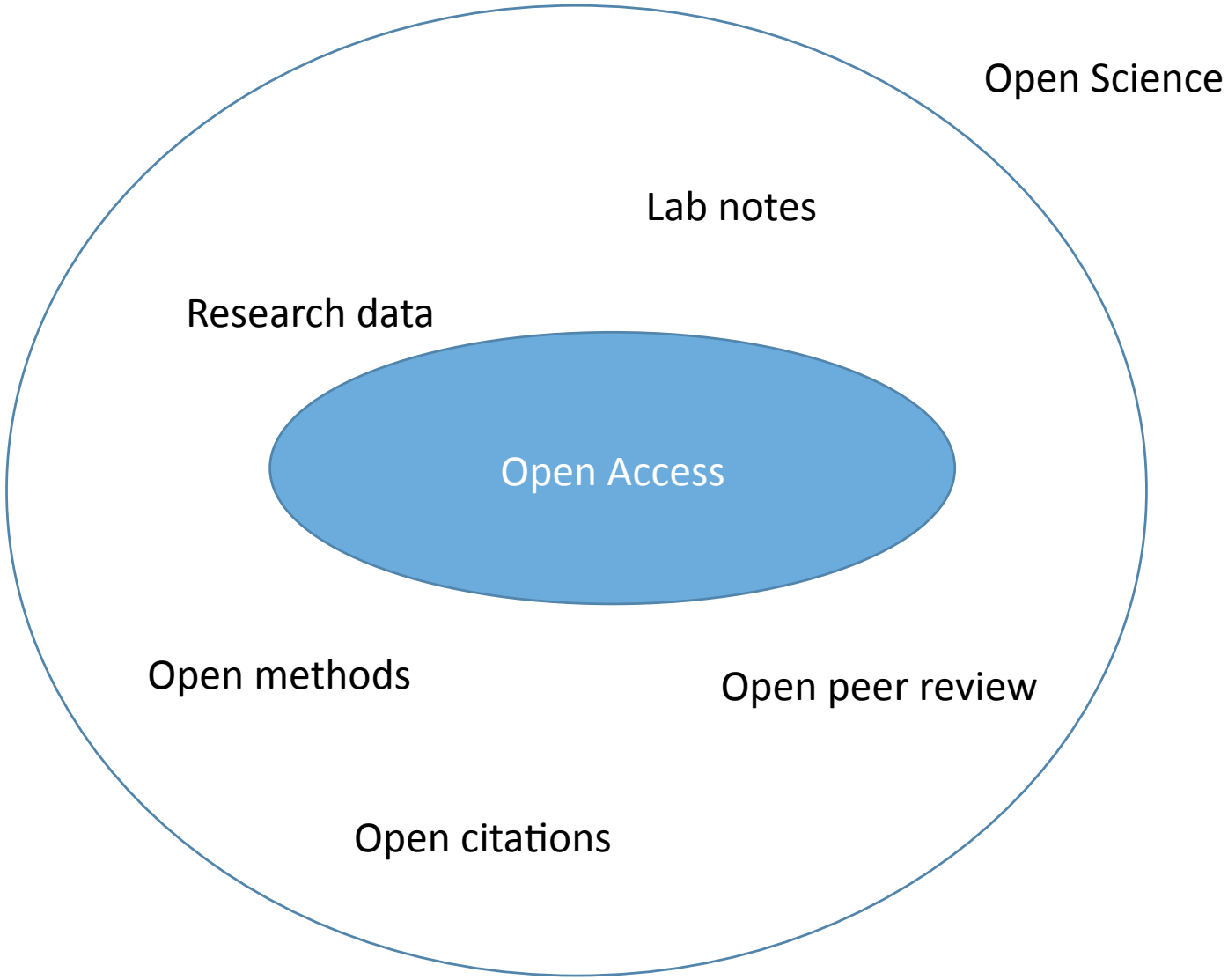
Open Science
Lab notes
Research data
Open Access
Open methods
Open peer review
Open citations

Open science: a definition

- **Open Science** is the practice of **science** in such a way that others can **collaborate** and **contribute**, where research data, lab notes and other research processes are freely available, under terms that enable **reuse**, **redistribution** and **reproduction** of the research and its underlying data and methods [FOSTER]

Science should be reproducible 1/2

- Open science is more than publishing in open access journals
- Plan S and the policies of some big funders have changed the scene foreseeing in their guidelines different possibilities

Pre-print, post-print, publisher's version are accepted

Science should be reproducible 2/2

- Underlying data should be **accessible** to allow reproduction
- A growing number of journals require **data sharing** as a condition for publication

Data should be accessible does not mean that data should be open

- Data can be private or accessible by a defined group of people (PI and the research group), or accessible for everyone (open data).
- Regardless of how open they are, to facilitate reproducibility data should be FAIR

FAIR data

- Findable
- Accessible
- Interoperable
- Reproducible
- To be FAIR data should be managed

Data should be managed: why?

Data underpin research findings

To be citable

Compliance with funder's mandates

Research integrity

Reproducibility

More visibility

Reusability

Research data at a European level

- Pilot on open research data
- Projects that support data management
- Infrastructure (EOSC)
- Guidelines and rules (copyright, GDPR, ethics)

Research data at a national level

Italy needs:

- A cultural change
- A national policy on research data
- Data on research data (for monitoring who, where, what)
- Guidelines and rules
- Infrastructures (interoperable with EOSC)

Research data at an institutional level

Institutions need:

A policy on research data management

Rules and guidelines

Legal and technical support

(staff)

Infrastructures

A cultural change

- The first step for a latecomer country is a cultural change
- Activities of groups such as IOSSG, RDA Italy, OpenAIRE should be followed by institutions and researchers
- Policies should be more effective
- Bottom up and top down actions are necessary if we want a cultural change to happen

A lot of work

- But we can «stand upon the shoulders of giants» and benefit from the experiences of other European countries