Data Schools

Open and Responsible (Data) Science Citizenship

Advances (1): Open Science in the Last 5 Years

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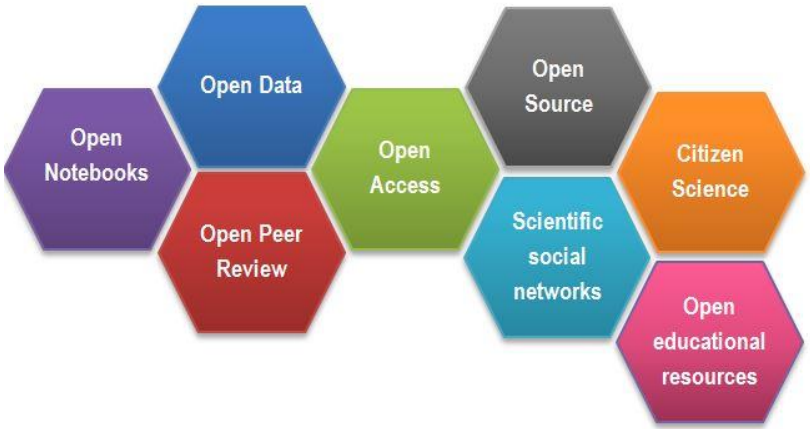
Open and Responsible (Data) Science Citizenship

- Track 1
  - What is Responsible Conduct of Research (RCR)?
  - What is Open Science (OS)?
  - How do RCR and OS fit together?
  - How can I integrate RCR and OS practices into my research?
  - How can I start RCR/OS discussions in my home institution?
- Track 2
  - How do RCR and OS fit into the broader concept of open and responsible (data) science citizenship?
  - How do my daily research activities contribute to my identity as an open and responsible (data) science citizen?
  - How can I, as a (data) science citizen, contribute to the broader ethical discussion on data science?
  - How do I teach (data) science citizenship?

A Rapidly Evolving Landscape

- Open Science landscape continues to evolve rapidly
- Activities range from top-down international policy development and multi-national technical partnerships to bottom-up, community-led activities



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https://www.fosteropenscience.eu/content/what-open-science-introduction

FAIR Principles for Data

- In 2016, the FAIR Guiding Principles for Scientific Data Management and Stewardship were published in *Scientific Data*.
- This was followed in 2018 by the CARE data standards that focus on indigenous knowledge
- Aspirational not prescriptive
- Disciplinary communities engaged in identifying FAIR-informed data standards relevant for their data

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Mandating Open Access

- Plan S is an initiative for Open Access publishing that was launched in September 2018.
- The plan is supported by cOAlition S, an international consortium of research funders.
- Plan S requires that, from 2021, scientific publications that result from research funded by public grants must be published in compliant Open Access journals or platforms

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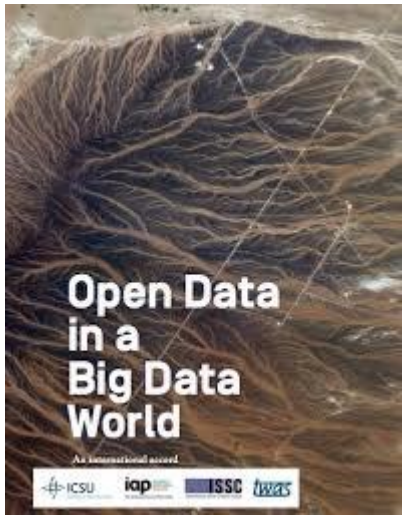
https://www.coalition-s.org/

Consensus Documents

- Many international organizations are producing, or collaborating on the production of, consensus documents that outline the importance of Open Science for future research



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Regional Developments

- There have been many regional developments in Open Science over the last 5 years. These include:
- 2016: launch of African Open Science Platform
- 2017: launch of SciELO (**Sci**entific **E**lectronic **L**ibrary **O**nline) Preprints
- 2017: Project SOHA supports development of LMIC-focused French-language journals
- Development of country/region-focused pre-print repositories such as AfricArXiv, IndiArXiv
- Development of national and institutional strategies to support Open Science

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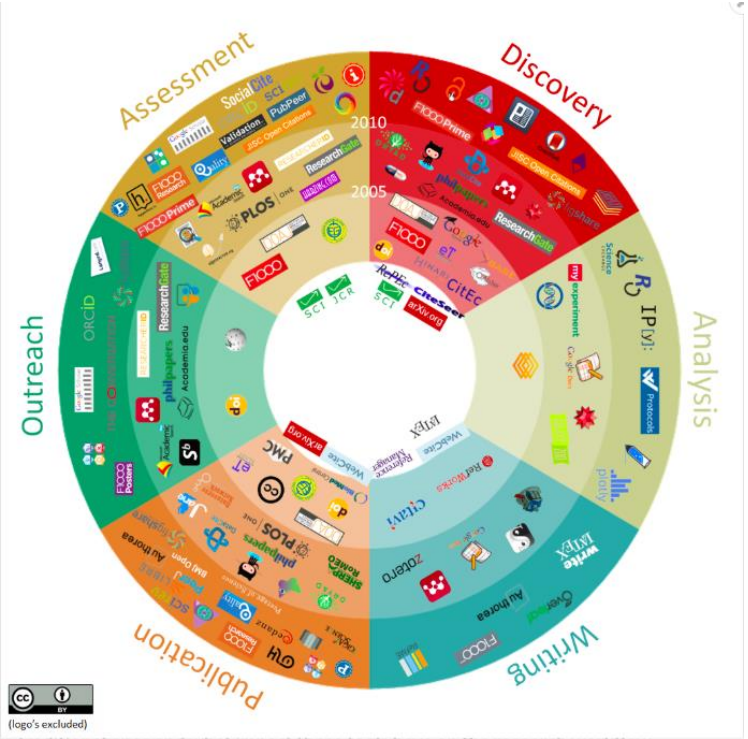
New Tools and Practices

- Range of new digital tools being developed that streamline research practices and enhance openness
- Rise of pre-print repositories such as ArXiv
- COVID-19 pandemic has also given rise to novel Open Science practices including open access agreements, open data agreements and rapid publication of relevant resources



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Disrupting the Status Quo

- Rise of citizen science is accelerating discussions on openness by:
  - Encouraging societal engagement in research
  - Fostering research and innovation outside of “traditional” academic environments
- Rise of “open businesses” is challenging traditional models of commerce
  - Businesses such as RedHat are proving that an entirely open business model can still be a commercially-viable option

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