

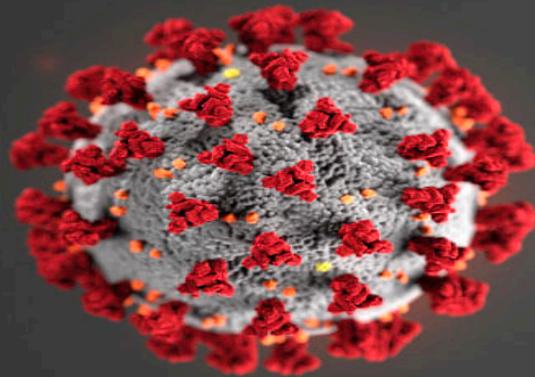
Panel Discussion: COVID-19 & the need for Open Science

RRING Virtual Workshop

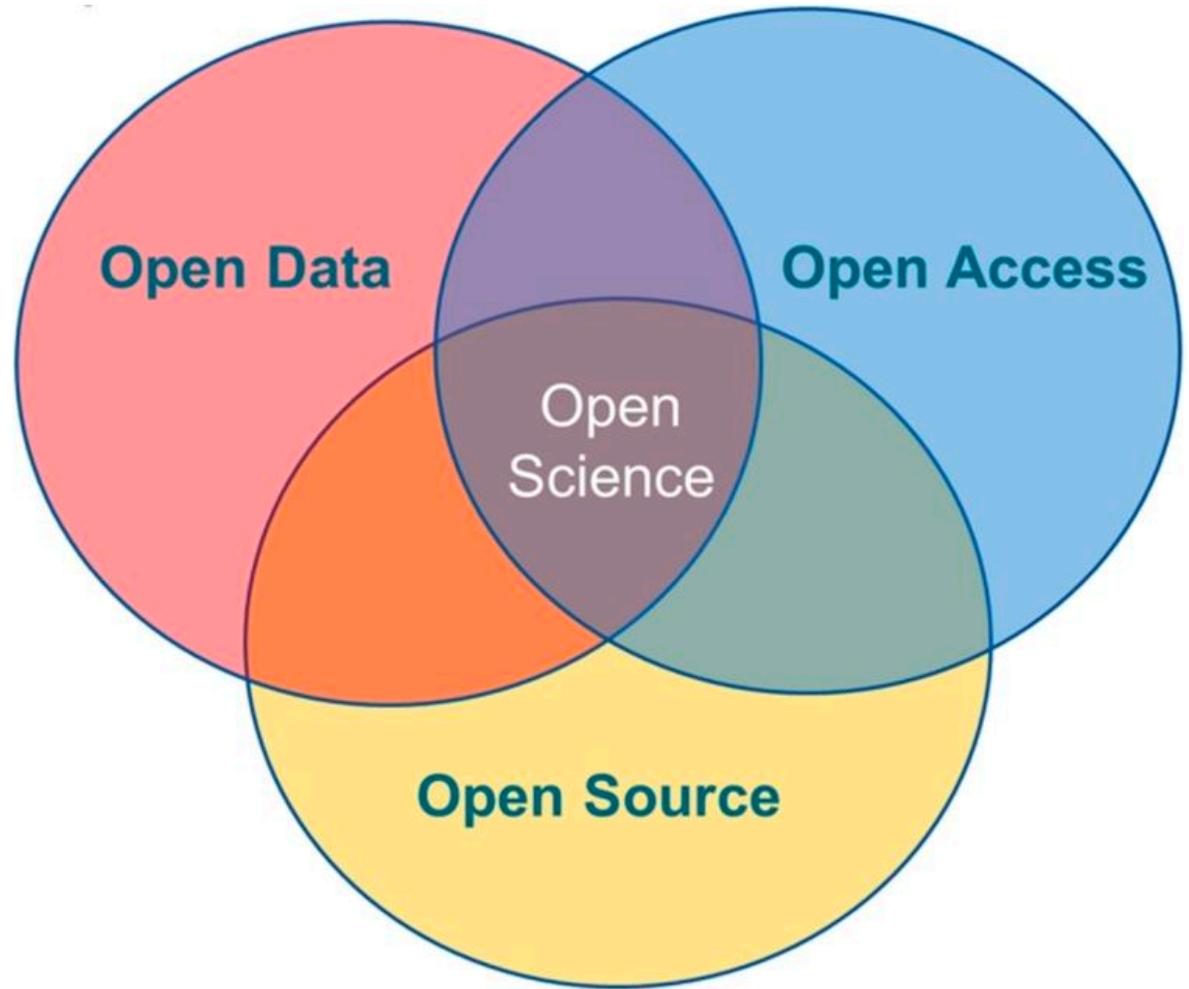
Rashmi Rodrigues MD, PhD

Associate Professor

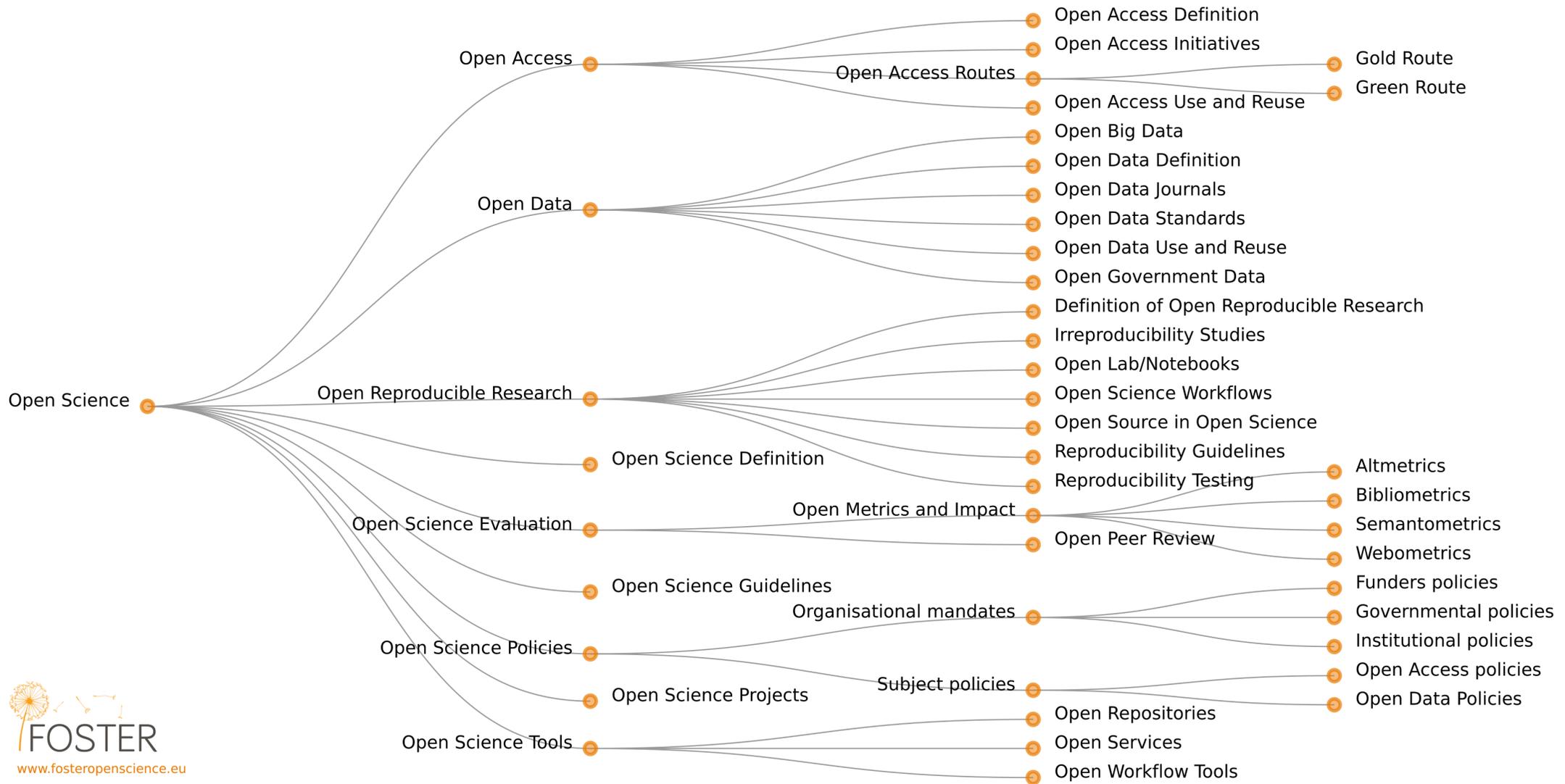
St. John's National Academy of Health Sciences, Bangalore, India



Open Science

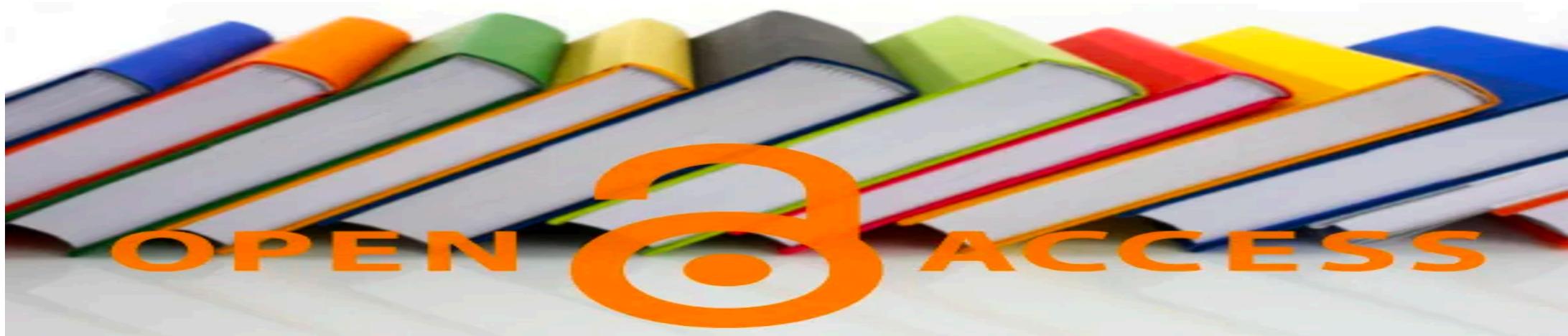


Open Science Taxonomy



Open access models

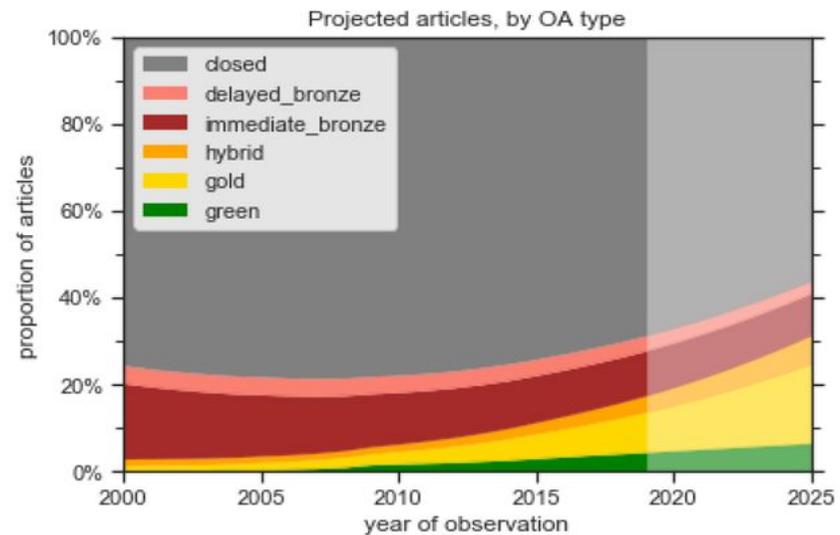
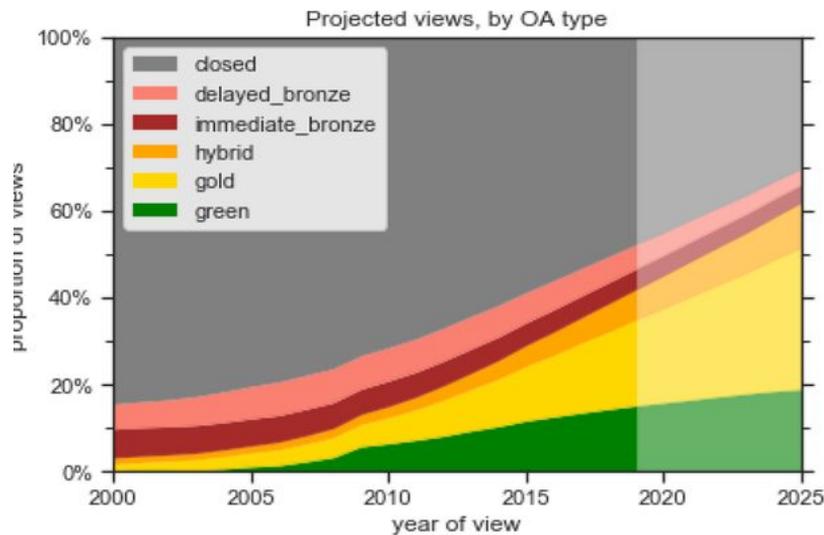
- **Gold:** Published in an open-access journal that is indexed by the Directory of Open Access (DOAJ)
- **Green:** Toll-access on the publisher page, but there is a free copy in an OA repository
- **Hybrid:** Free under an open license in a toll-access journal
- **Bronze:** Free to read on the publisher page, but without an clearly identifiable license
- **Closed:** All other articles



Open access

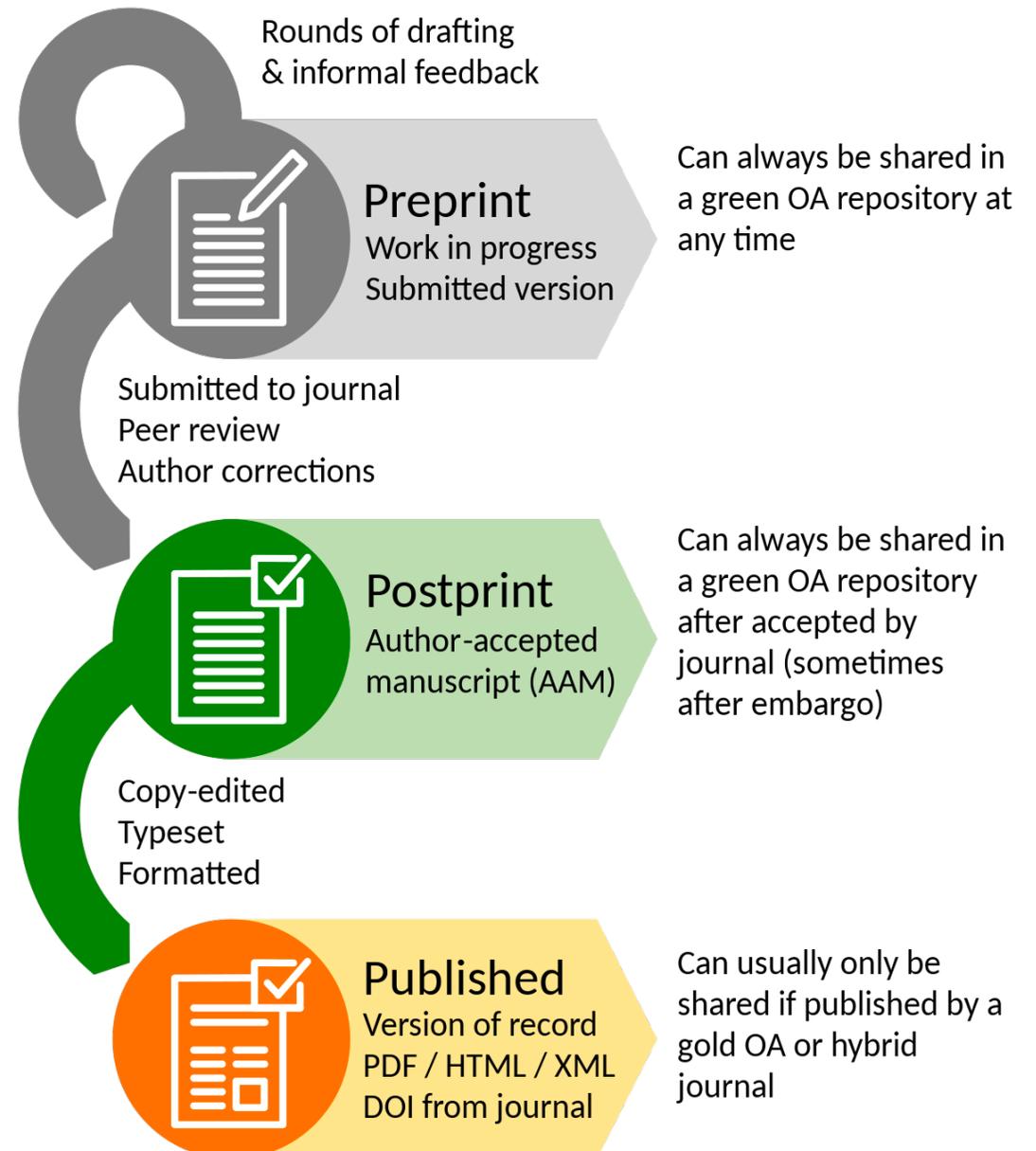
In 2019

- 31% of all journal articles available as OA
- 52% of article views were of OA articles



Heather Piwowar, et al,
bioRxiv 795310; doi: <https://doi.org/10.1101/795310>

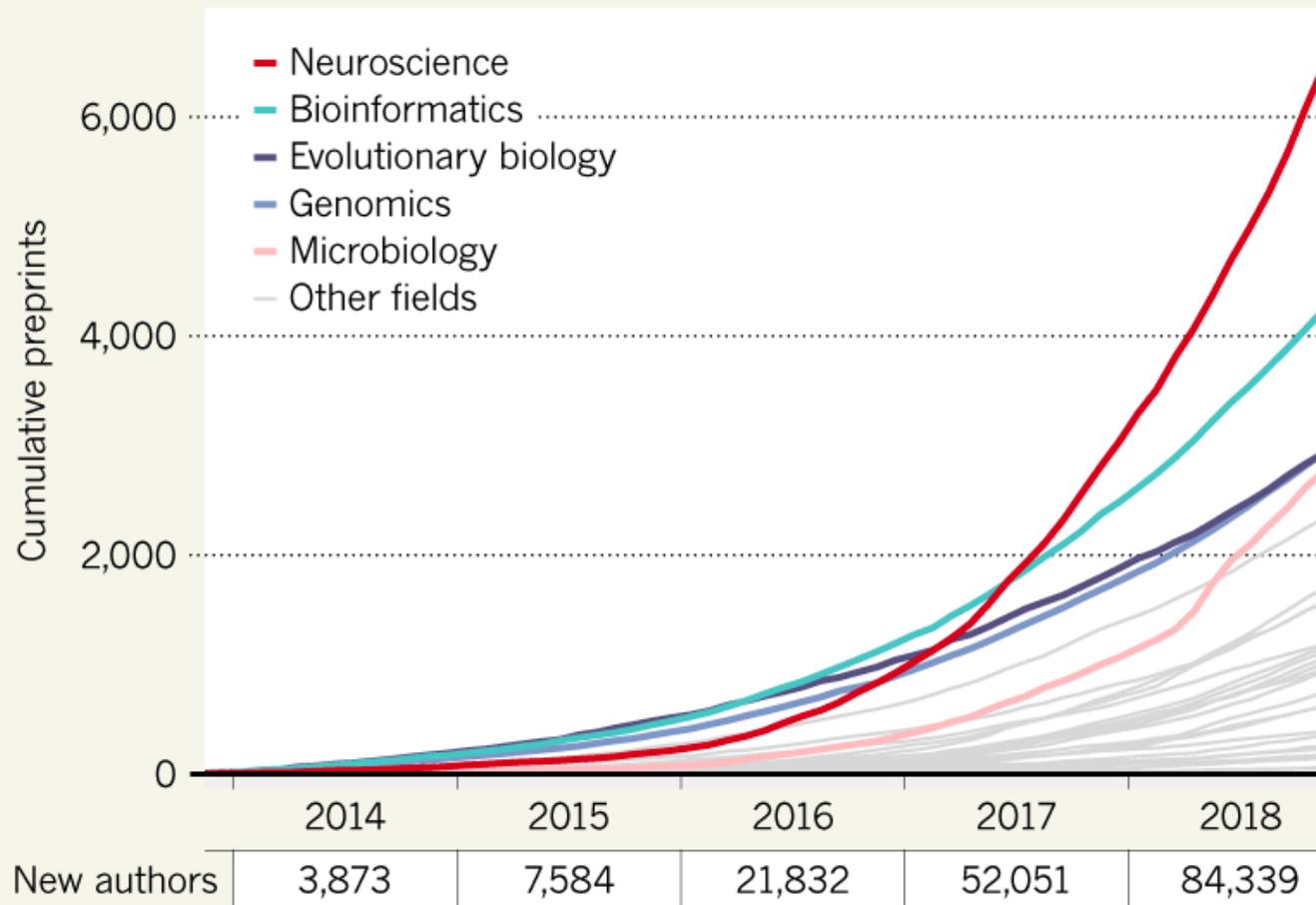
Workflow



Preprints

MARCH OF THE PREPRINT

The number of preprints posted to bioRxiv is rising fast, as is the number of new authors who are using this mode of publication.



Barriers to Open Access

- Policy or legal blocks (Political)
- Economic- for the researcher and for the journal
- Academic community's knowledge of and attitudes towards OA
- Academic culture
- Organizational support and policies
- Mechanistic – skilled work and standards
- Ethics, legalities- ownership vs stewardship

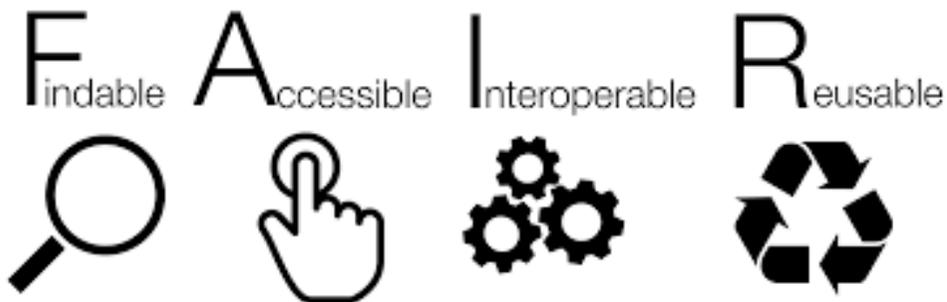


Open access data

FAIR Principles:

- **F**indability: Metadata and data should be easy to find for both humans and computers
- **A**ccessibility: Once found data, how can data be accessed- including authentication and authorisation
- **I**nteroperability: The data usually need to be integrated with other data
- **R**euse of digital assets: Data should be well-described so that they can be replicated and/or combined in different settings

<https://www.go-fair.org/fair-principles/>



Benefits of open access



COVI 19 and Open access

Open data

- genetic sequence of COVID-19 being posted in GenBank – an OA database
- The research community has been creating new open data resources such as *The Human Coronaviruses Data Initiative*

Open Publications

- Research, publishing and sharing data- Wellcome Trust's statement on sharing coronavirus research has been made research freely accessible
- Major publishers including Elsevier, Springer Nature, Wiley Online Library have made articles freely available

Open Educational Resources

- free online courses to the public about the coronavirus

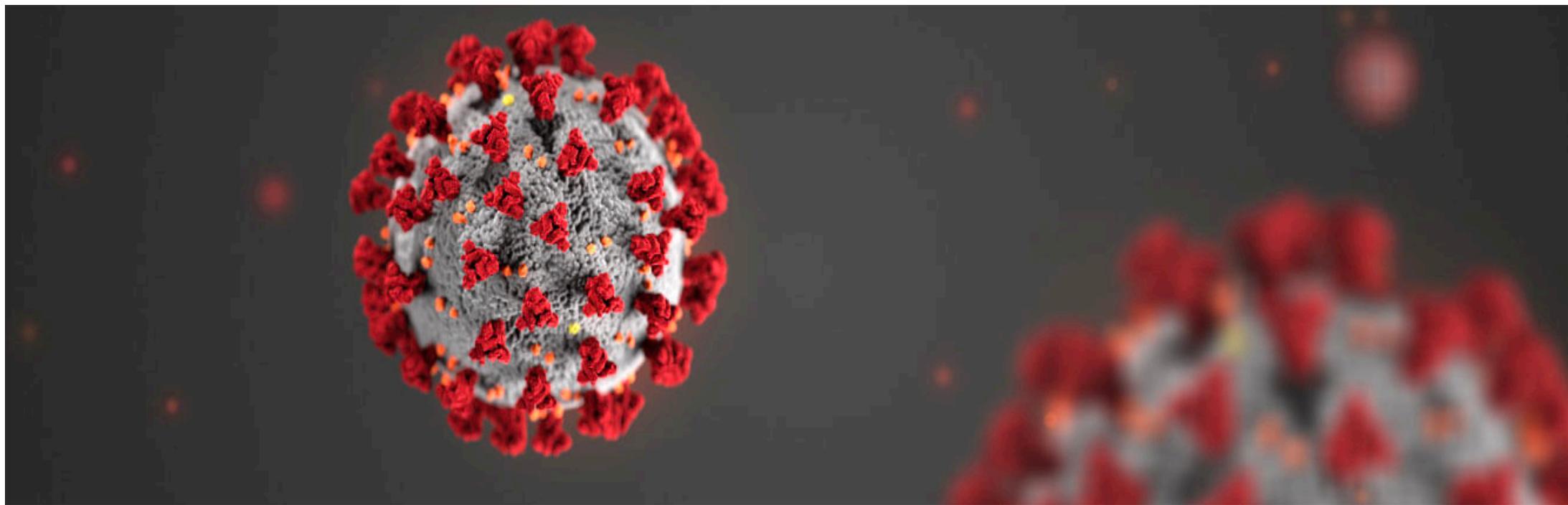
Challenges

- All data is not sufficiently findable, accessible, interoperable and reusable (FAIR), or not yet FAIR data
- Sources of data tend to be widespread
- Consent to share personal health data
- Differing definitions globally- Specific standards for COVID-19 data need to be established
- Transparency of the statistics guide governments testing policies and thereby the control of the pandemic



Way forward

- Developing of data governance models for open research by default
- Regulatory frameworks that enable interoperability
- Policies for reuse of privately-held research data
- Securing adequate infrastructure
- Scale up human capital and institutional capabilities
- Access to sensitive research data across borders on a more restricted basis in secure environments



Thank You!
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