Research on COVID19

Giovanni Colavizza
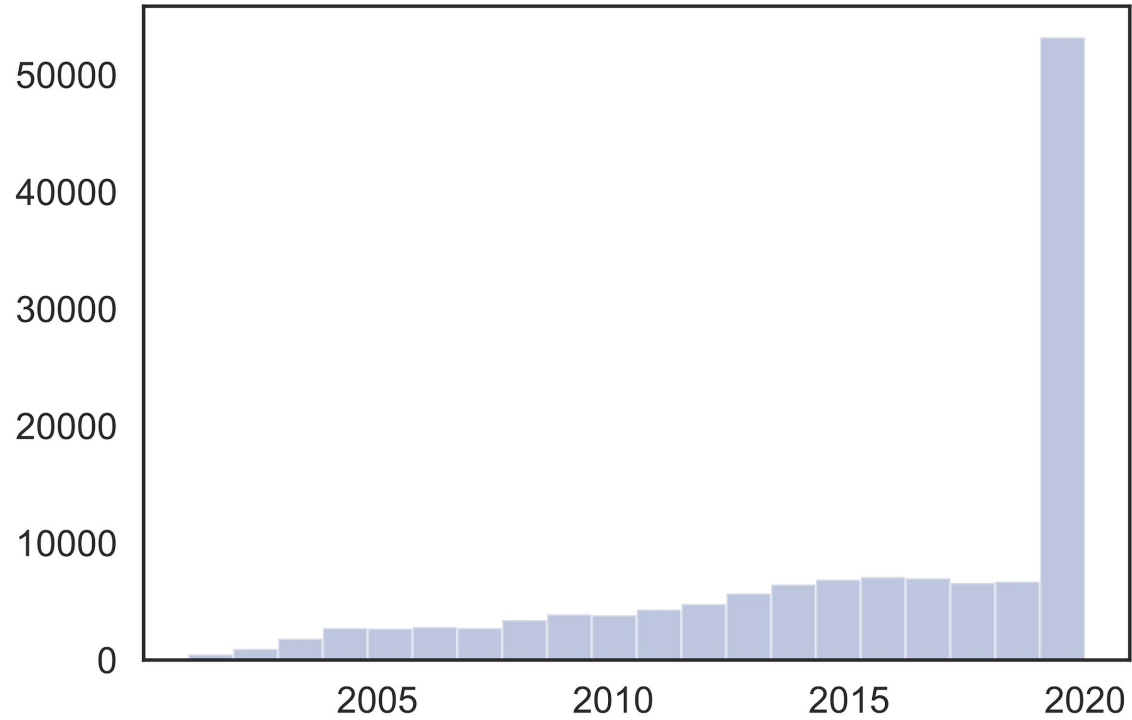
What I will focus on

- Volume (+ pre-prints and information retrieval)
- Research topics and collaborations

Scientific communication: research volume
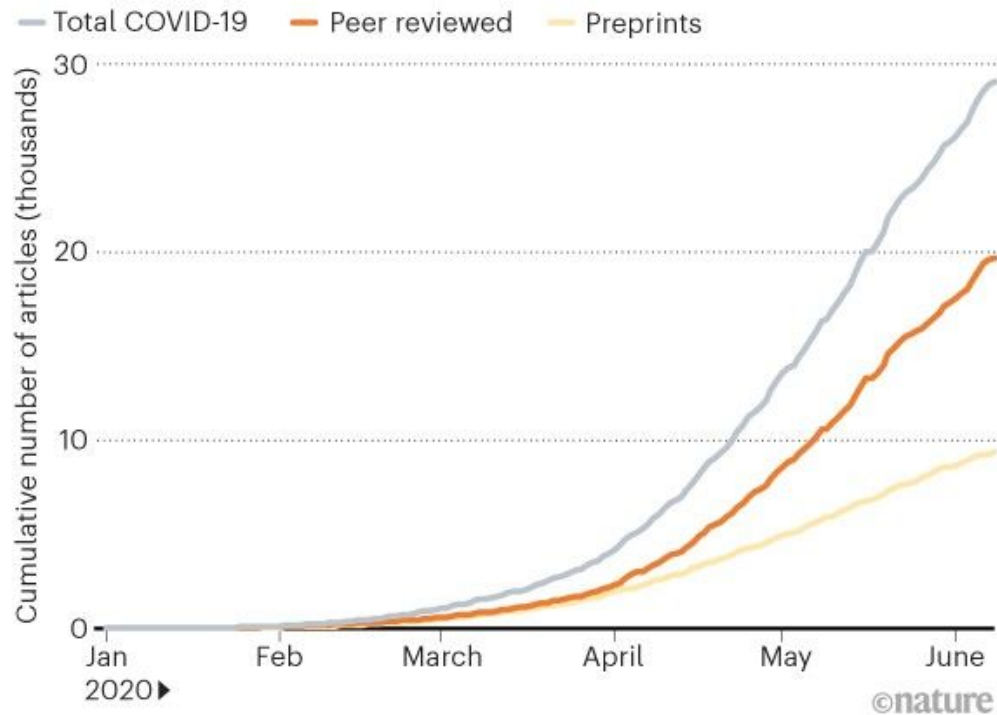
Scientific communication: research volume

"To give some context, the area of 'Deep Learning' in AI is one of the fastest growing fields today and comprises around 150,000 papers.

When deep learning started out, it took around seven and a half years to go from a few hundred papers a year of output to more than 11,000. In the case of COVID, the same volume has been reached in just four and a half *months*."
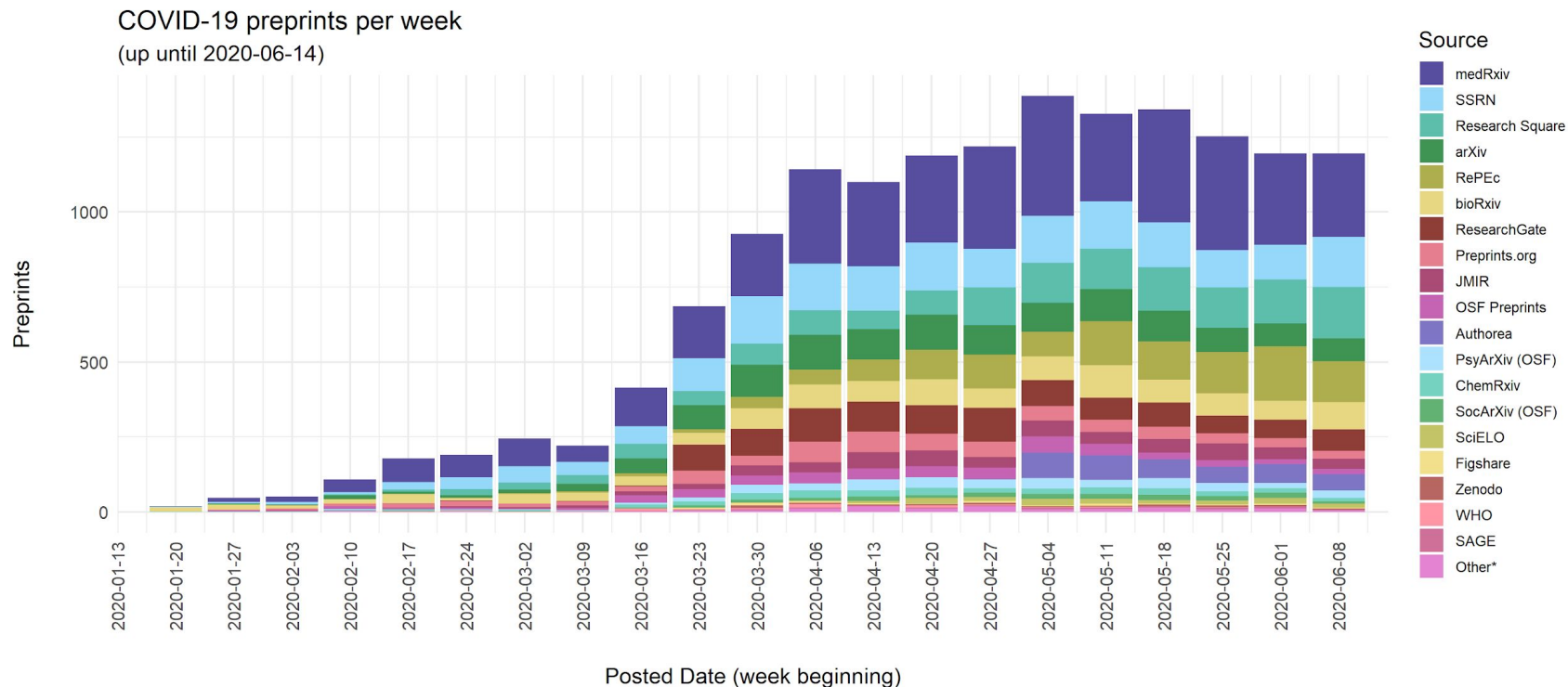
Scientific communication: pre-prints

EXPLOSIVE GROWTH
Since 1 January, nearly 30,000 articles on COVID-19 have been published, according to the the NIH's COVID-19 Portfolio.

— Total COVID-19   — Peer reviewed   — Preprints

Scientific communication: pre-prints

COVID-19 preprints per week
(up until 2020-06-14)

* 'Other' refers to preprint repositories containing <30 total relevant preprints. These include: AfricArXiv (OSF), AgriXiv (OSF), BioHackrXiv (OSF), EarthArXiv (OSF), EcoEvoRxiv (OSF), EdArXiv (OSF), engrXiv (OSF), Frenxiv (OSF), INA-Rxiv (OSF), IndiaRxiv (OSF), LawArXiv (OSF), MediArXiv (OSF), NutriXiv (OSF), ScienceOpen, SportRxiv (OSF), Techrxiv (IEEE).

Nicholas Fraser (16 June 2020) https://github.com/nicholasmfraser/covid19_preprints
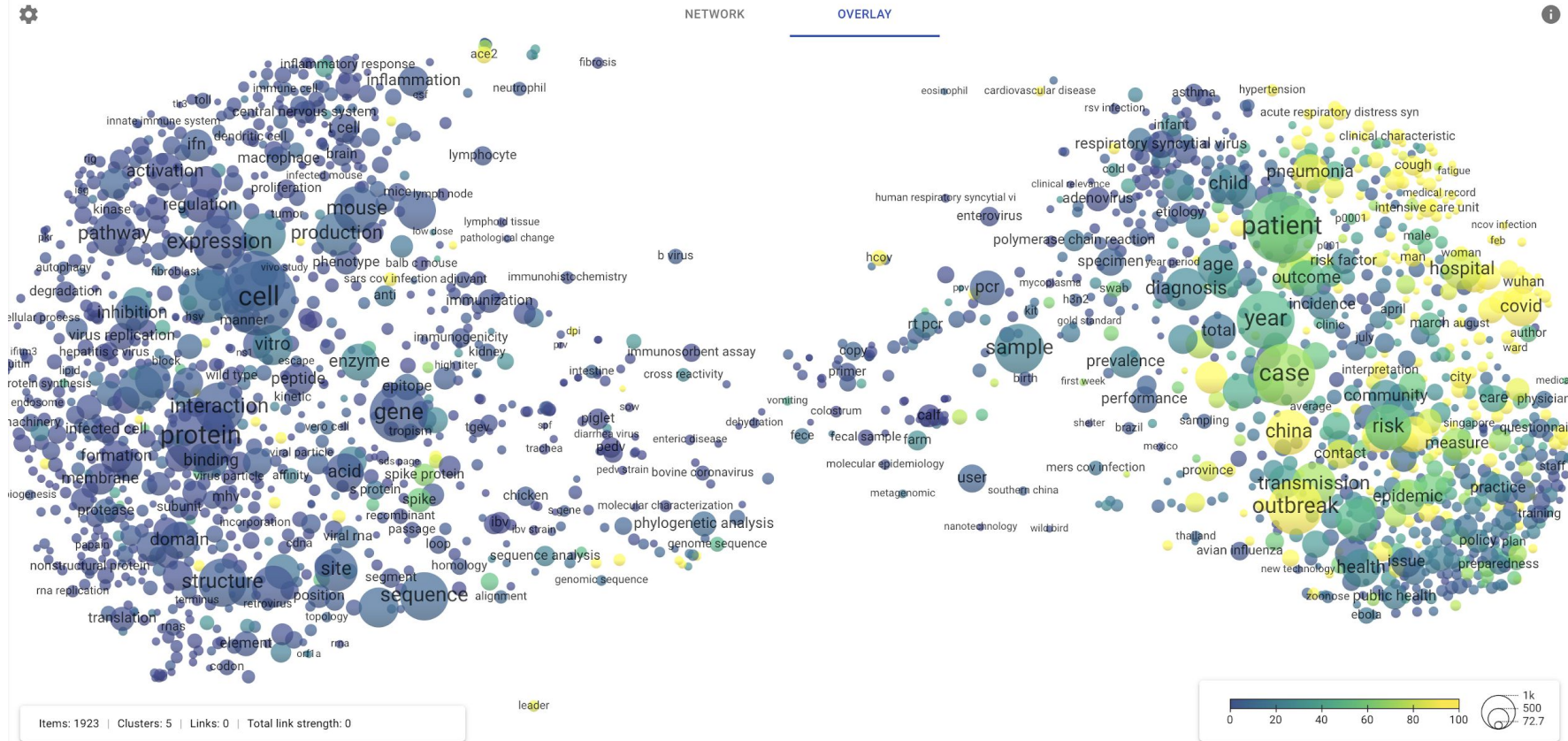
Scientific communication: information retrieval

In summary

- Very large volume in very short time: unprecedented
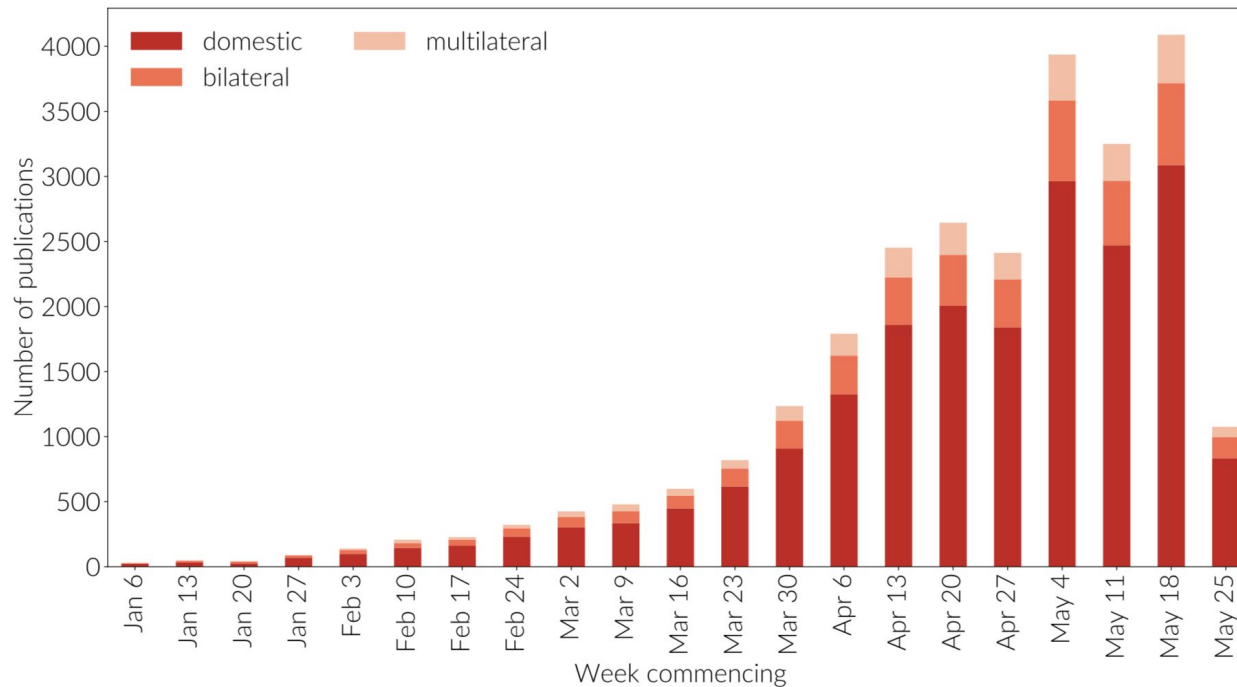- Importance of pre-prints
- Acceleration in tool development

> Still unclear what will stay and what will go
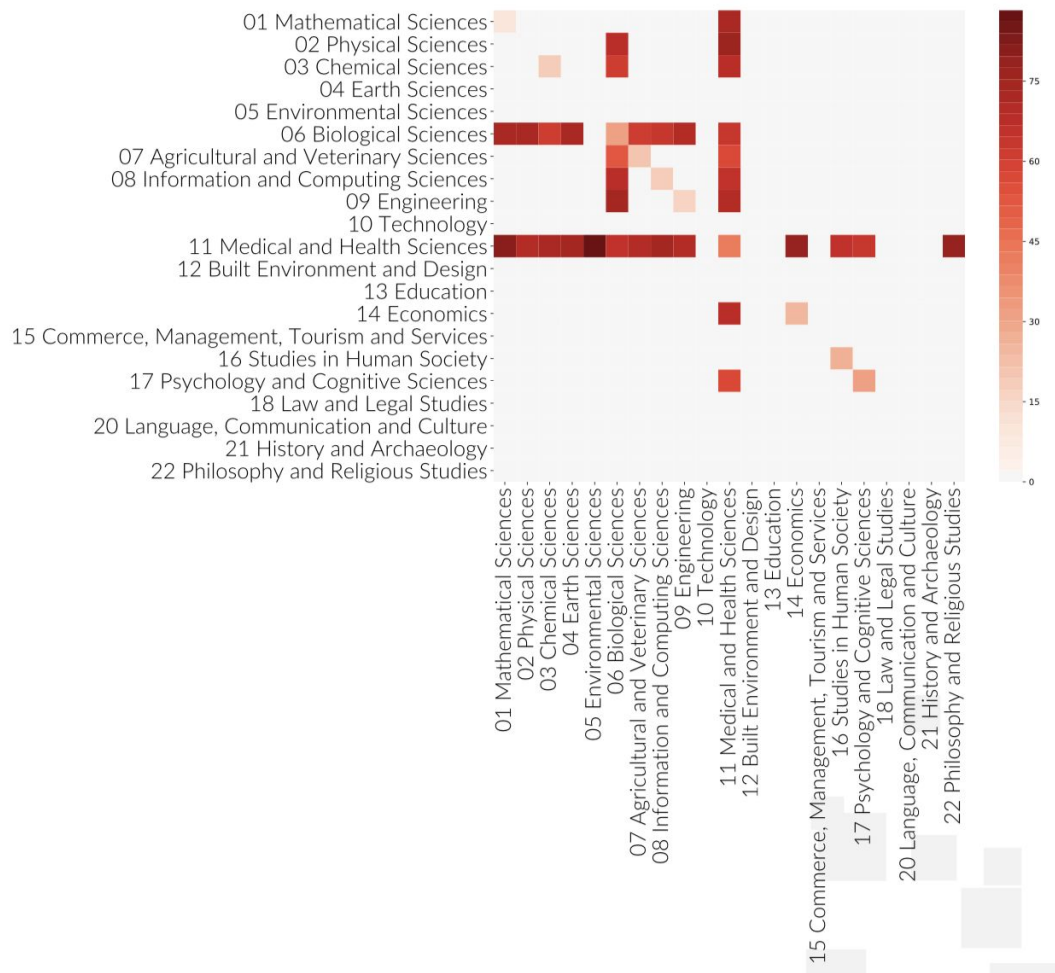
What is being researched

Colavizza et al. (20 April 2020) "A scientometric overview of CORD-19" https://www.biorxiv.org/content/10.1101/2020.04.20.046144v1 and CWTS
VOSviewer https://app.vosviewer.com/?map=https://www.cwts.nl/projects/covid19/VOSviewer_term_map_CORD19_200404.txt&overlay_visualization=1

Collaborations

Collaborations

In summary

- Initial focus on biomedical research (e.g., transmission and vaccines), epidemics and pandemic containment
- Other disciplines and topics now also contributing more (from health responses to societal responses)
- Primarily domestic research (due to resources already in place and national funding)
- Interdisciplinary collaborations primarily focused on biomedicine + another discipline

> This picture will likely diversify in the near future, as new projects start

What I did not mention

- Reviewing
- Open access
- Funding
- Social and online media
- Societal issues and impact on researchers
- ...

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