# **EOSC** OpenAIRE COVID-19 Gateway

Iryna Kuchma, Open Access Programme Manager









# **EOSC Association in Numbers**

184 \* 130 Membership applications
\*41 Observer applications
\*13 Mandated members
Applications

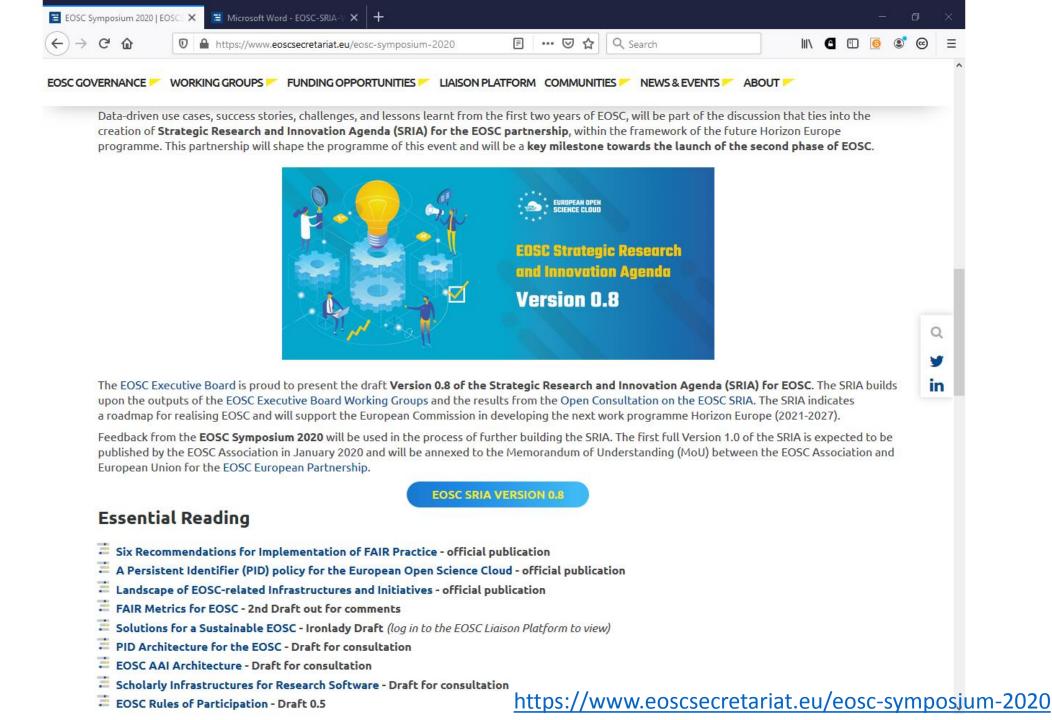
\* 114 Research performing organisations
\* 54 Service providing organisations
\* 13 Research funding organisations
\* 3 Other organisations

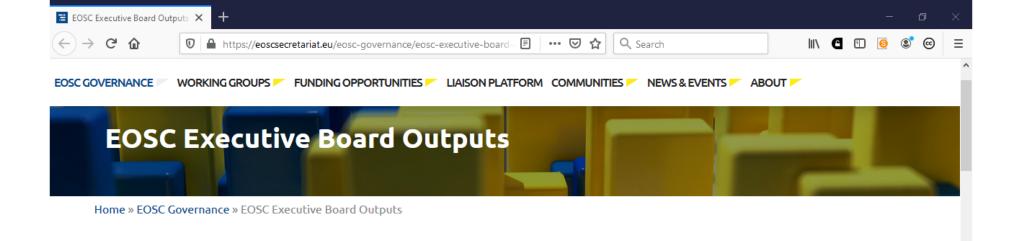
Organisation types

Belgium \*
Denmark \*
Hungary \*
Ireland \*
Italy \*
Luxembourg \*
Moldova \*
Poland \*
Portugal \*
Romania \*
Slovakia \*
Slovenia \*
Spain \*
Switzerland \*
Ukraine \*

Countries mandated members

https://eoscsecretariat.eu/news-opinion/eosc-association-numbers





On this page you will find all the relevant documents produced by the EOSC Governance, including updates from the EOSC Executive Board and its Working Groups, as well as relevant documents created by EOSCsecretariat.eu in support of the EOSC Governance.

#### Q ¥ in

#### The EOSC Association Statutes

The Association advances Open Science to accelerate the creation of new knowledge, inspire education, spur innovation and promote accessibility and transparency. The international purpose of the Association is (1) to provide a single voice for advocacy and representation for the broader EOSC stakeholder community, (2) to promote the alignment of European Union research policy and priorities with activities coordinated by the Association, and (3) to enable seamless access to data through interoperable services that address the entire research data life cycle, from discovery to storage, management, analysis and re-use across borders and scientific disciplines.

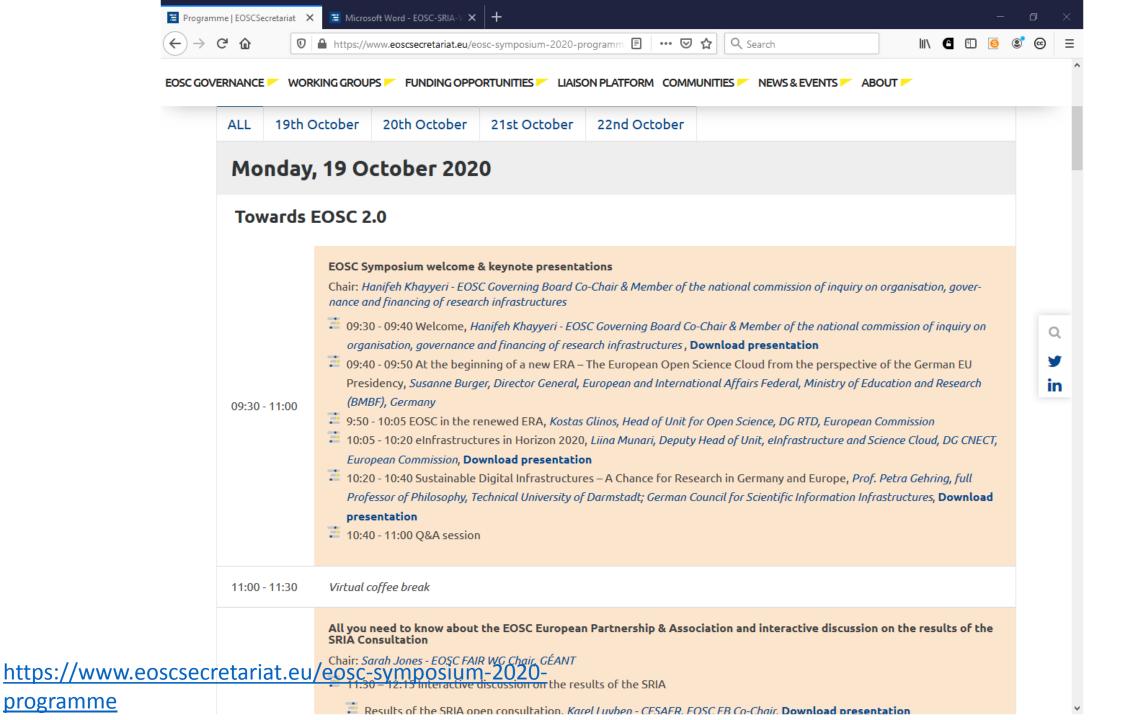
#### Download the EOSC Association Statutes

Apply to join the EOSC Association



#### The EOSC Strategic Research and Innovation Agenda - VERSION 0.8

The SRIA builds upon the outputs of the EOSC Executive Board Working Groups and the results from the Open Consultation on the EOSC SRIA. The <a href="https://eoscsecretariatine.upse-osc-governation-en-algo-osc-governation-



# EOSC



Why – What –How

Natalia Manola, OpenAIRE Managing Director, EOSC Executive Board Member





# Europe's response to data driven research

#### For researchers

- Tools to find, access, verify and combine multi-disciplinary scientific data for new discoveries
- Measures to increase data findability and accessibility
- Clear incentives and rewards for sharing

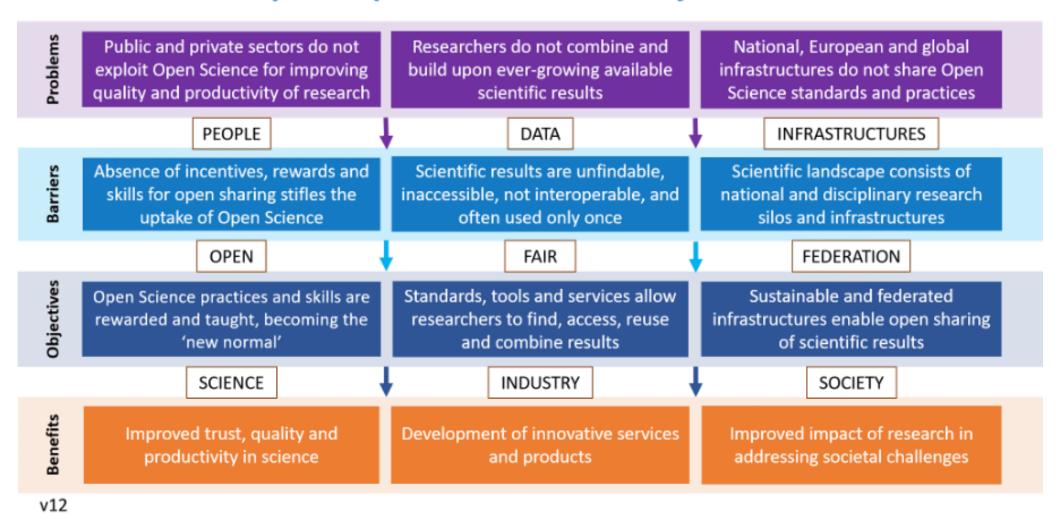
#### For policy makers

- Societal and global challenges demand cross-disciplinary research
- A lack of available FAIR data costs Europe €10 bil ion per year (PWC)
- Europe needs a data commons to maintain its position as global leader in innovation
- An increase in data resources wil boost the usage of distributed machine learning and emerging artificial inteligence techniques giving Europe a competitive advantage





#### **European Open Science Cloud Objectives Tree**





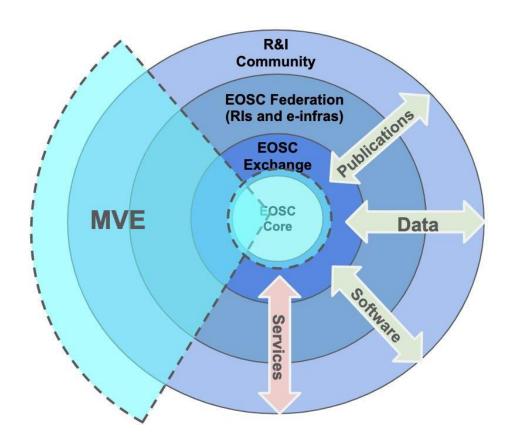
# Openness is the success factor for EOSC

Free (at the point of use), uncomplicated and intelligent access to data

Open Science and specifically Open Access to all research results (data, publications, software, protocols, as well as tools and services) is a strategic priority, a key enabler into achieving a critical mass of accessible content for researchers to experiment with, stimulating the demand.

The EOSC will only be successful if there is enough researcher engagement and uptake

## **EOSC** in a nutshell



**Sharing** research outcomes **and** research resources – building on, learning from each other.

**Unique Selling Point**, adding value to existing EC and MS/AC investments – federation.

Driven by **Rules of Participation** – consensus

- Each layer defines its own policies (RoPs)
- MVE includes:
  - EOSC Core and subsets of EOSC Exchange, Federation
  - EOSC resources (services, research products) required to "market" the EOSC
  - Subset of the R&I community (showcases, e.g., COVID-19)





# **EOSC**



Citations Usage



#### **Actors**



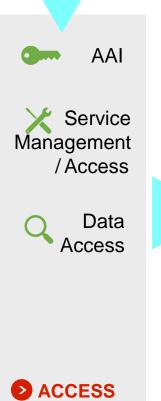




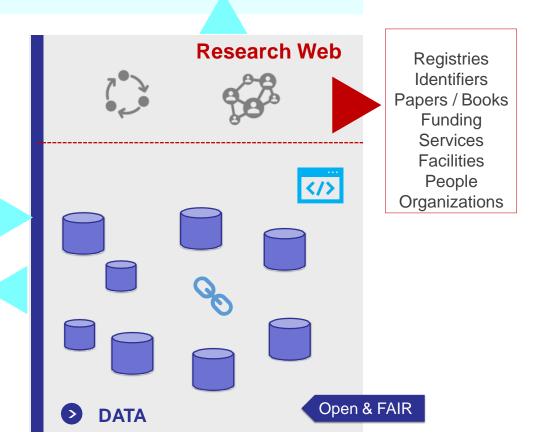
















# **EOSC Core**

- A shared open science policy framework. Embeds a data compliance framework for open / FAIR data. It defines and applies the
  rules of how the data elements are published, shared and re-used.
- Authentication & Authorization Interoperability (AAI) framework, a trust and identity service to allow seamless access to any EOSC resource
- o Data access framework. Enable open interfaces where data consumers (users and machines) are able to discover and use data.
- Service management and access framework. Provide a consistent and agreed upon understanding of e-science services: what
  they offer, which science problem they address, what is their operational capacity, how they are accessed, who pays for them.
- A minimum interoperable metadata framework. Ensures openness and interoperability across disciplines while respecting privacy and security (disclosure limitations, patents, IP, personal data, PSI, etc.)
- An open metrics framework. Sets the rules (usage, performance, value for money, user satisfaction) for the assessment of EOSC elements, i.e., policies, access framework, services, data, business, funding and usage models. Includes elements to facilitate the incentives and awards mechanisms.
- PID: Services to generate, resolve and validate persistent identifiers.
- Security policies and procedures. Ensures consistent and coordinated security operations across the federated services.
- Operational support services.
- Web-portal including web-content as well as supply and demand facing services providing for accessing the EOSC resources.





## Partnerships - An EU alignment mechanism

**Horizon Europe** wil support European Partnerships to deliver on global chal enges through concerted R&I effort with the Member States, private sector, foundations and other stakeholders.

#### **EU Partnerships**

- provide mechanisms to link R&I closely to policy needs,
- develop close synergies with national and regional programmes,
- bring together a broad range of innovation actors to work towards a common goal, and
- turn research into socio-economic results

health

49 EU Partnerships

- <u>digital</u>, <u>industry</u> and <u>space</u>
- climate, energy and mobility
- · food, bioeconomy, natural resources, agriculture and environment
- partnerships across themes

https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme/european-partnerships-horizon-europe\_en#partnership-candidates-and-contact-details





# **EOSC Partnership**

- **Develop synergies:** Enable a trusted, virtual, federated environment in Europe to store, share and re-use research data across borders and scientific disciplines.
- Bring all actors under one umbrella: Bring together institutional, national and European initiatives and engage all relevant stakeholders to co-design and deploy a European Research Data Commons.
- **Help researchers:** Enhance the possibilities for researchers to find, share and reuse publications, data, and software leading to new insights and innovations, higher research productivity and improved reproducibility in science.





# **EOSC Partnership – Key objectives**

Objective 1: Open science practices and skills are rewarded and taught, becoming the "new normal"

<u>Main milestone</u>: The EOSC ecosystem underpins the reward of open science practices and data stewardship that improve trust, quality and productivity in science.

# Objective 2: Standards, tools and services allow researchers to find, access and reuse results

<u>Main milestone:</u> The EOSC provides a trusted platform supporting the development of innovative services and products.

# Objective 3: Sustainable and federated infrastructures enable open sharing of scientific results

<u>Main milestone:</u> The EOSC infrastructure is in operation, providing a web of FAIR data and related services underpinning research addressing major societal chalenges.

Crosscutting objective: Boosting the impact of EOSC through collaboration and alliances





#### **EOSC Governance**

The Partnership wil operate through a new Association (Belgian AISBL) along the principles of decentralisation, transparency and openness.

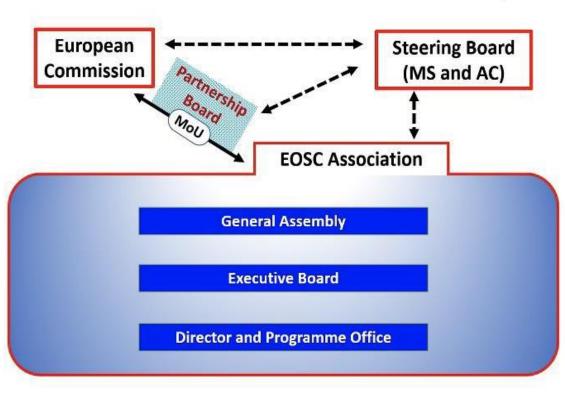
#### **Core tasks**

- Coordination and alignment(SRIA)
- Monitoring and reporting
- EOSC technical guidance
- FAIR training
- Communication

The Association will be essentially resourced via the membership fees from its members. The activities resulting from the SRIA will be resourced through commitments by the European Commission, at European level, and by the members of the Association at national and institutional level.

# 4 founding members Interest from ~90 Membership fees Full - 10,000 € Observers - 2,000 €

#### **Governance of the Partnership**







# Strategic Research & Innovation Agenda (SRIA)

Implementation challenges	Boundary conditions
AA1: Identifiers AA2: Metadata and Ontologies AA3: FAIR Metrics and Certification AA4: Authentication and Authorisation Infrastructure AA5: User Environments AA6: Resource Provider Environments	AA8: Rules of Participation AA9: Landscape Monitoring AA10: Business Models AA11: Skills and Training AA12: Rewards and Recognition AA13: Communication AA14: Widening to the Public and Private
AA7: EOSC Interoperability Framework	Sectors







#### Alessia Bardi, Iryna Kuchma

ISTI-CNR, EIFL / OpenAIRE

# The OpenAIRE COVID-19 Gateway

https://covid-19.openaire.eu/







# OpenAIRE for COVID-19

Activities to help researchers combat the epidemic and understand its aftermath.

FIND OUT MORE

#### Our efforts

Open Science, as an underlying factor has been proved as the only and essential way forward to share immediately the results for all.

OpenAIRE, in collaboration with the EC, will provide services to help in the sharing, discovery, navigation and collaboration of the global research community.

#### Zenodo COVID-19 Community

Together with CERN we have created a specific Community to collect all research results that could be relevant for the scientific community worldwide working on the Coronavirus Disease (COVID-19) and SARS-CoV-2.

This community is currently curated by the OpenAIRE team.

READ MORE →

#### OpenAIRE COVID-19 Gateway

OpenAIRE currently develops a service to serve as a single point of entry for research results (publications-data-software) and other useful resources for the Coronavirus Disease (COVID-19) and SARS-CoV-2. It will be linked to Zenodo COVID-19 community as well as many other EU and global initiatives and will address different scientfic domains.

The COVID-19 Gateway is now live

READ MORE →

#### **RDA COVID-19 Fast track Working Group**

This Working Group will define detailed guidelines on data sharing and re-use under the present COVID-19 circumstances to help researchers follow best practices to maximize the efficiency of their work. The guidelines will focus on the management of data originating from different data sources and the development of a system for data sharing in public health emergencies that supports scientific research.

OpenAIRE contributes by helping to deliver guidelines for data sharing

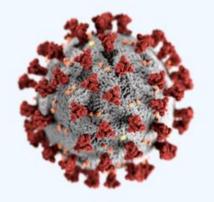
READ MORE →



Support **discovery** of existing research (research products, activities, COVID-19 monitoring dashboards)



Support data management: fast should not mean bad!



#### Coronavirus Disease Research Community - COVID-19

This community collects research outputs that may be relevant to the Coronavirus Disease (COVID-19) or the SARS-CoV-2. Scientists are encouraged to upload their outcome in this collection to facilitate sharing and discovery of information. Although Open Access articles and datasets are...

Curated by: Covid19\_Team\_OpenAIRE



#### https://zenodo.org/communities/covid-19

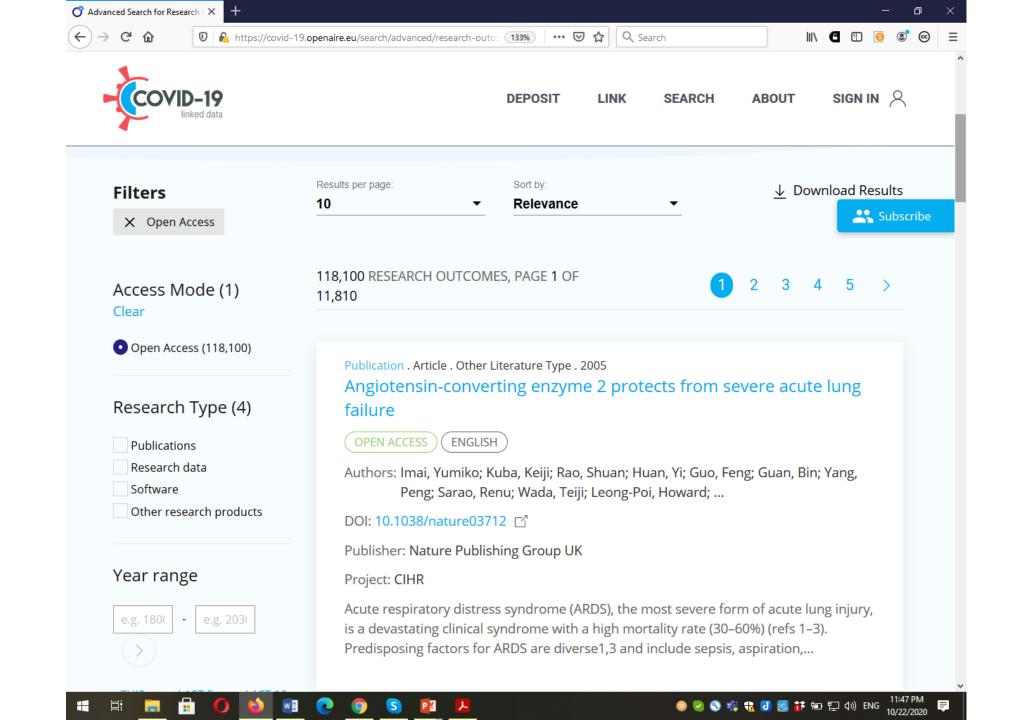
#### Coronavirus Disease Research Community - COVID-19

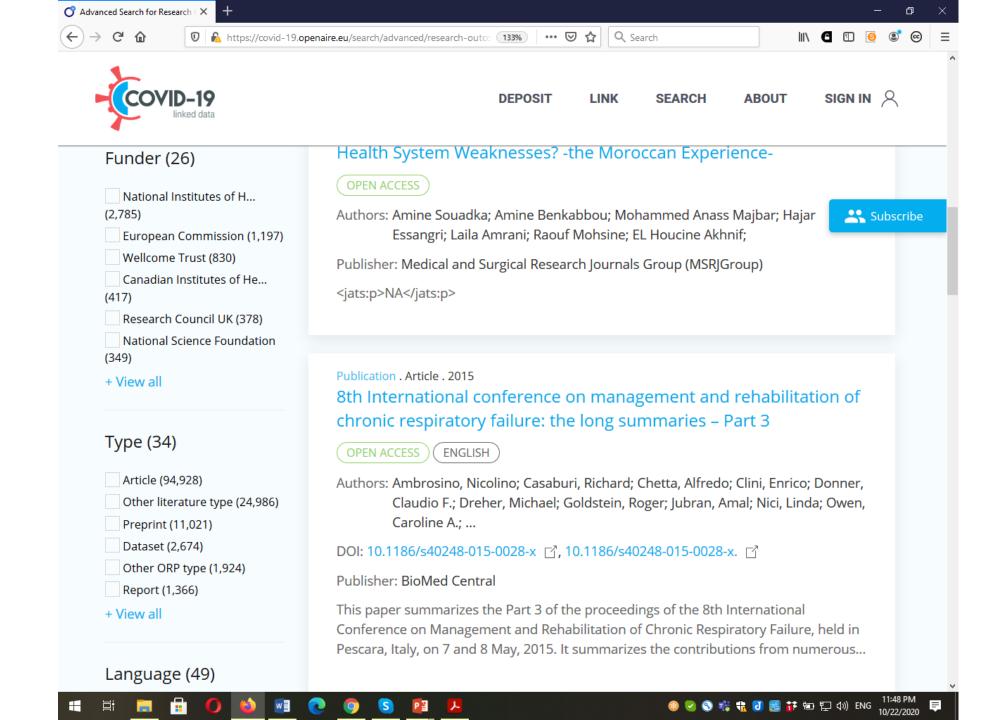
This community collects research outputs that may be relevant to the Coronavirus Disease (COVID-19) or the SARS-CoV-2. Scientists are encouraged to upload their outcome in this collection to facilitate sharing and discovery of information. Although Open Access articles and datasets are recommended, also closed and restricted access material are accepted. All types of research outputs can be included in this Community (Publication, Poster, Presentation, Dataset, Image, Video/Audio, Software, Lesson, Other).

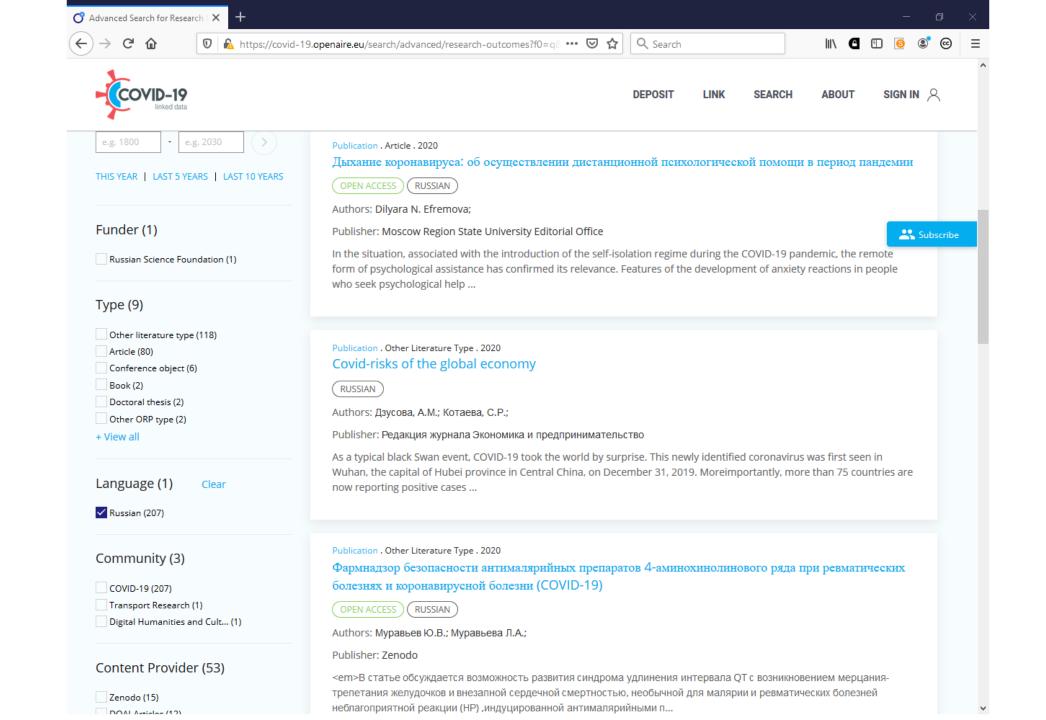
#### Coronavirus Disease Research Community - COVID-19

	Found 984 results.
Access Right	Most recent   asc.   ✓
☐ Open (964) ☐ Restricted (11) ☐ Closed (9)	roblanf/sarscov2phylo: 12-10-20 roblanf; Richard Mansfield; Citation and reuse Please cite this release as: Lanfear, Rob (2020). A global phylogeny of SARS-CoV-2 sequences from GISAID. Zenodo DOI: 10.5281/zenodo.3958883 You can visit that DOI here: If you publish papers that use this tree you must still follow the GISAID data sharing and attribution rules
File Type	Uploaded on October 15, 2020
□ Pdf (399)	32 more version(s) exist for this record
☐ Zip (300)	September 29, 2020 (v1) Dataset Open Access
□ Xlsx (72)	The scale and dynamics of COVID-19 epidemics across Europe
□ Csv (53)	Dye, Christopher;
□ Gz (28)	The number of COVID-19 deaths reported from European countries has varied more than 100-fold. In terms of coronavirus transmission,
□ Docx (25)	the relatively low death rates in some countries could be due to low intrinsic (e.g. low population density) or imposed contact rates (e.g. non-pharmaceutical intervent
☐ Png (25)	Uploaded on October 14, 2020
□ Txt (24)	
□(22)	September 30, 2020 (1) Journal article Open Access
☐ Tar (22)	Home Exercise-asociated Accidents During COVID-19 Isolation. A Case Report







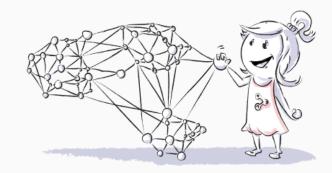




# Open. Transparent. Interconnected.

OpenAIRE Research Graph is an open resource that aggregates a collection of research data properties (metadata, links) available within the OpenAIRE Open Science infrastructure for funders, organizations, researchers, research communities and publishers to interlink information by using a semantic graph database approach.





https://graph.openaire.eu



ABOUT RESOURCES SUPPORT

#### Why OpenAIRE Research Graph

Unlock the power of open science data

#### Open and transparent

It is available for download and re-use as CC-BY (due to some input sources whose license is CC-BY); parts of the graphs can be re-used as CC-0; provenance is tracked at the level of the records and, when these are the result of full-text mining, of the properties (provenance also includes an indicator of trust, in the range [0..1]).

#### Intelligent linking

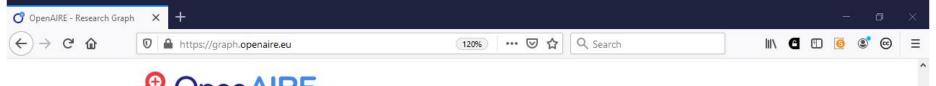
Abstracts, full-texts of Open Access publications and links are processed by several algorithms that infer new links and enrich the graph.

#### Decentralized and interoperable

Metadata and links are collected from data sources, such as institutional/data/software repositories, publishers, registries, and redistributed to such sources via brokering services.

#### **Embedded metrics**

Powers up calculation of advanced statistics and metrics about Open Science and research impact.





ABOUT RESOURCES SUPPORT

#### We believe in **Numbers**

22

**78**K

**3**M

**FUNDERS** 

**CONTENT PROVIDERS** 

**PROJECTS** 

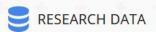
116,193,919



198,722

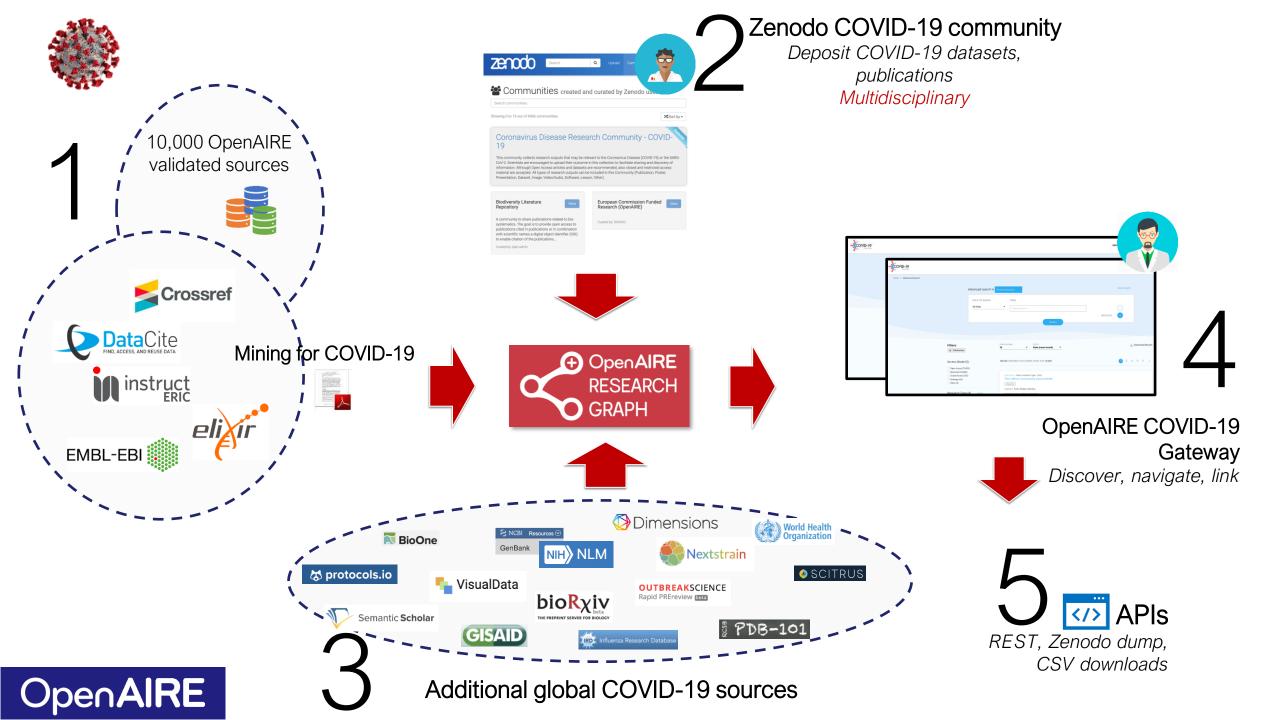


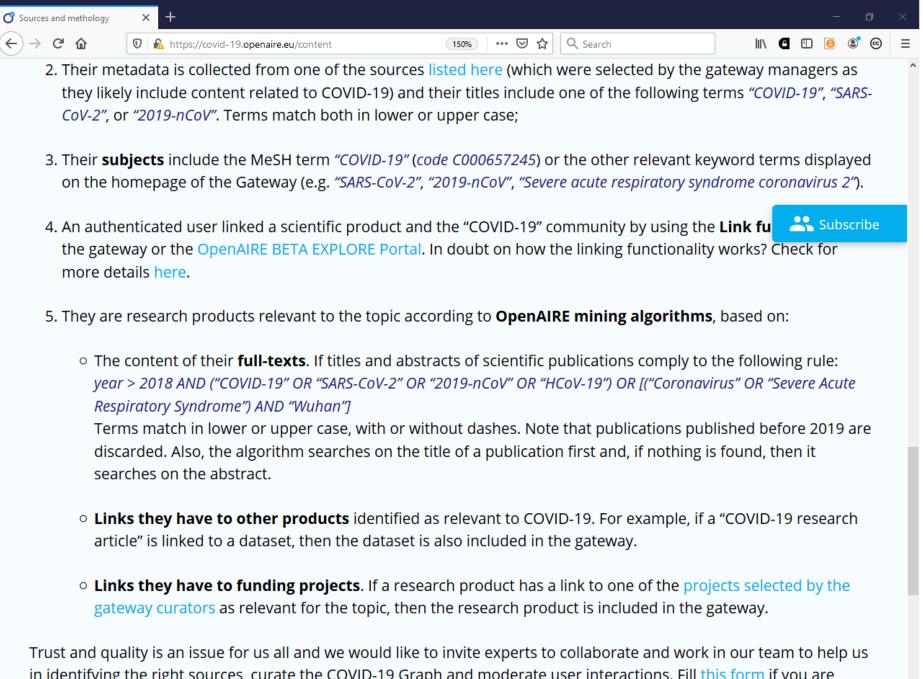
14,217,763



7,744,435







in identifying the right sources, curate the COVID-19 Graph and moderate user interactions. Fill this form if you are interested and want to contribute.

https://covid-19.openaire.eu/content

### **Get the metadata**

#### Json dumps on Zenodo

**CSV** downloads

**HTTP API** 

August 12, 2020

Dataset Open Access

OpenAIRE Covid-19 publications, datasets, software and projects metadata.

University of Warsaw De Bonis, Michele; Darwin, Michele; Atzori, Claudio; Backer, Amelie; Baglioni, Miriam; De Bonis, Michele; Dimitropoulos, Harry, Foufoulas, Ioannis; Horst, Marek, Iatropoulou, Katerina; Jacewicz, Przemyslaw; Kokogiannaki, Argiro; La Bruzzo, Sandro; Lazzeri, Emma; Löhden, Aenne; Manghi, Paolo; Mannocci, Andrea; Manola, Natalia; Ottonello, Enrico; Schirrwagen, Jochen

#### Data curator(s)

Bobrov, Evgeny; Truccolo, Ivana; Monteiro, Elizabete; Casalegno, Carlotta; Clary, Erin; Romanowski, Andrew





https://doi.org/10.5281/zenodo.3980490

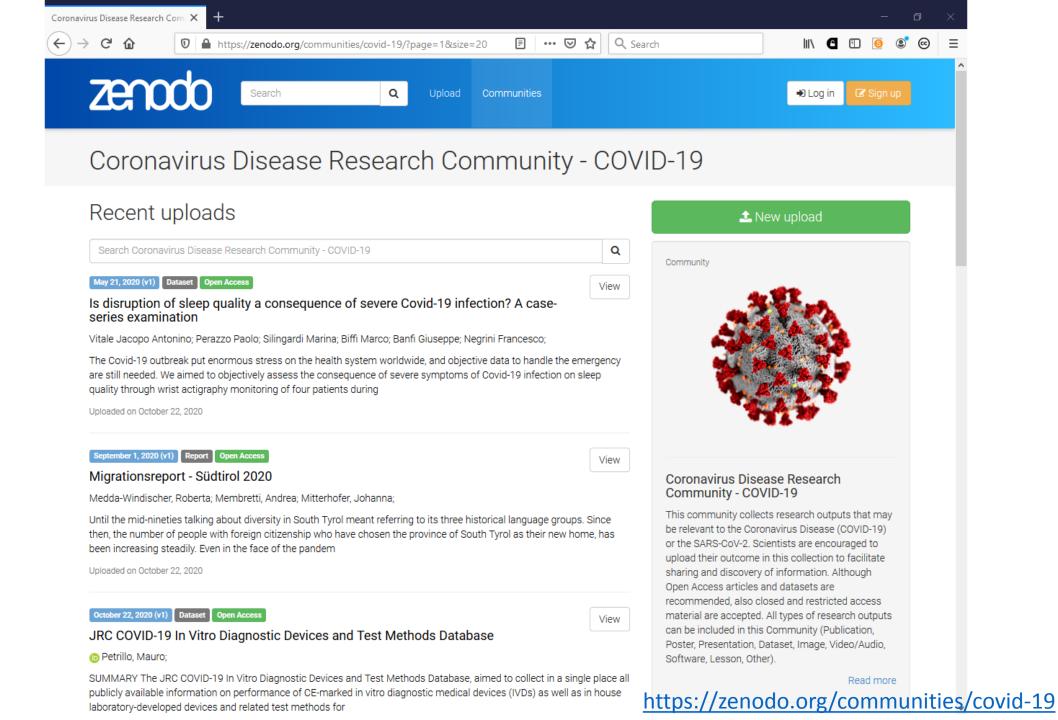


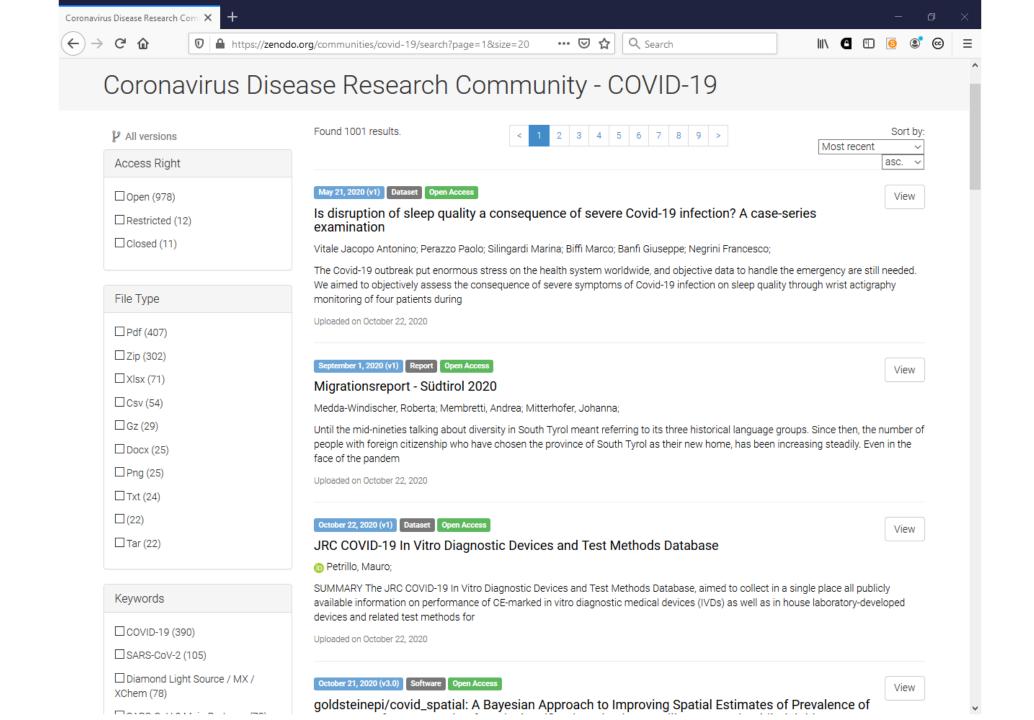


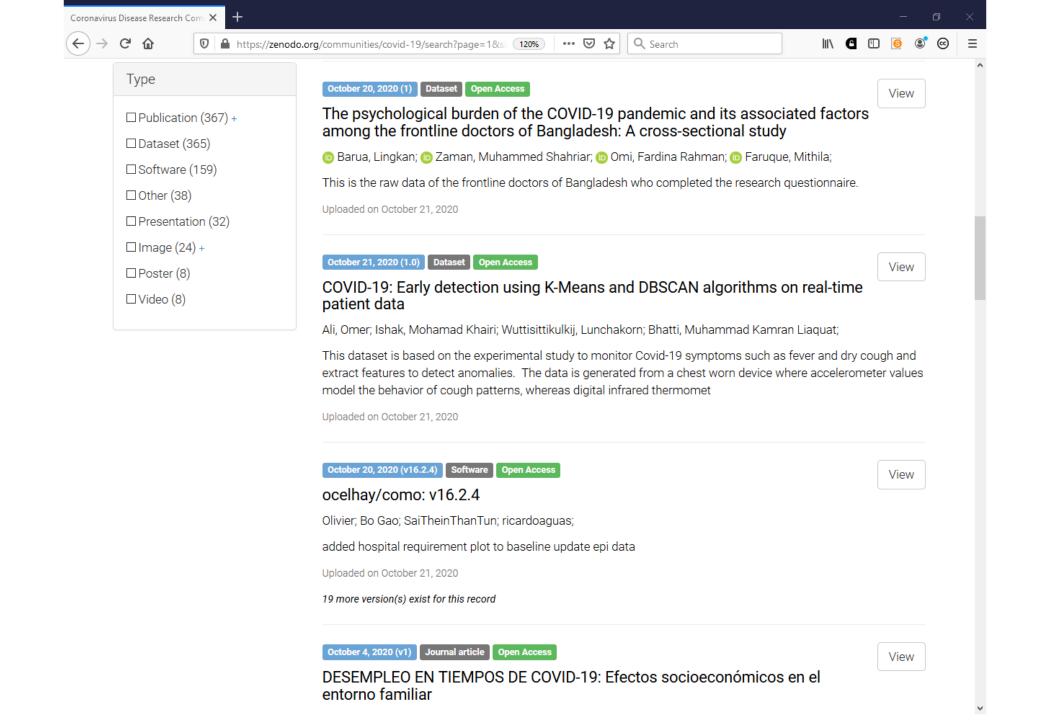
CSV file with:

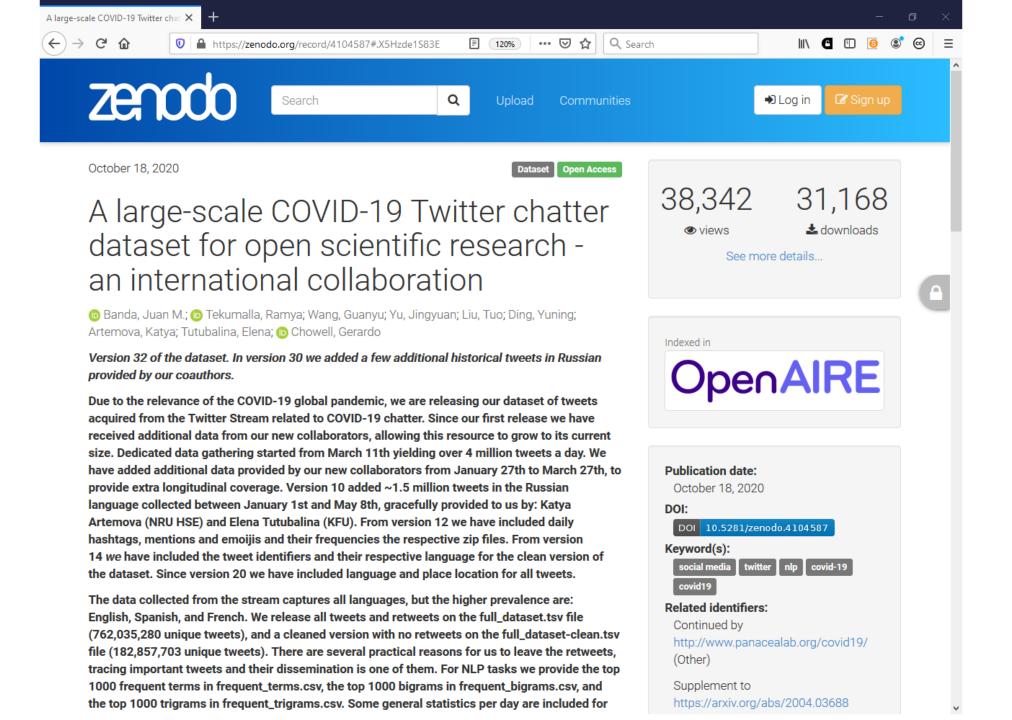
Type, Specific type, Title, Authors, Publication Year, DOI, Download from, Access Rights, Funder | Project Name (GA Number), Journal http://api.openaire.eu/search/publications?community=covid-19

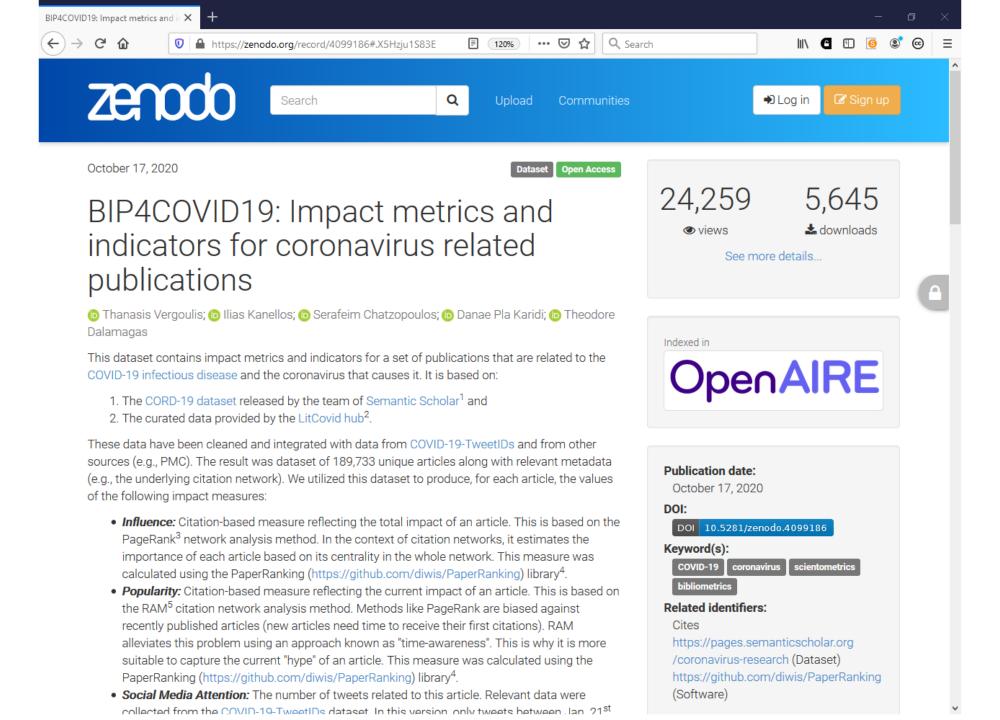
XML or json format

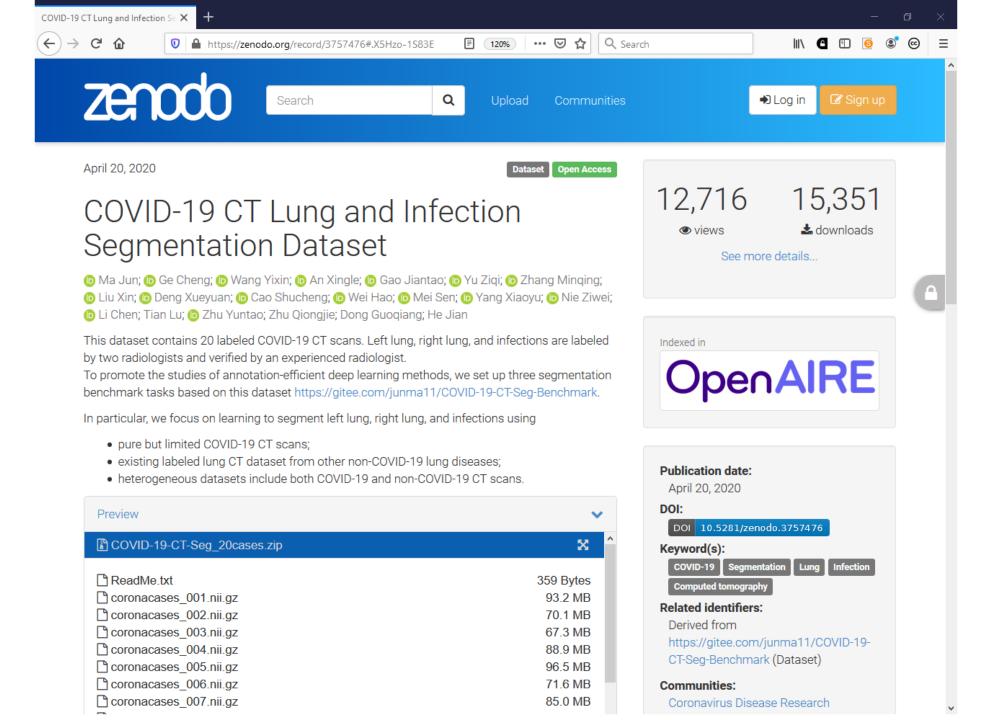


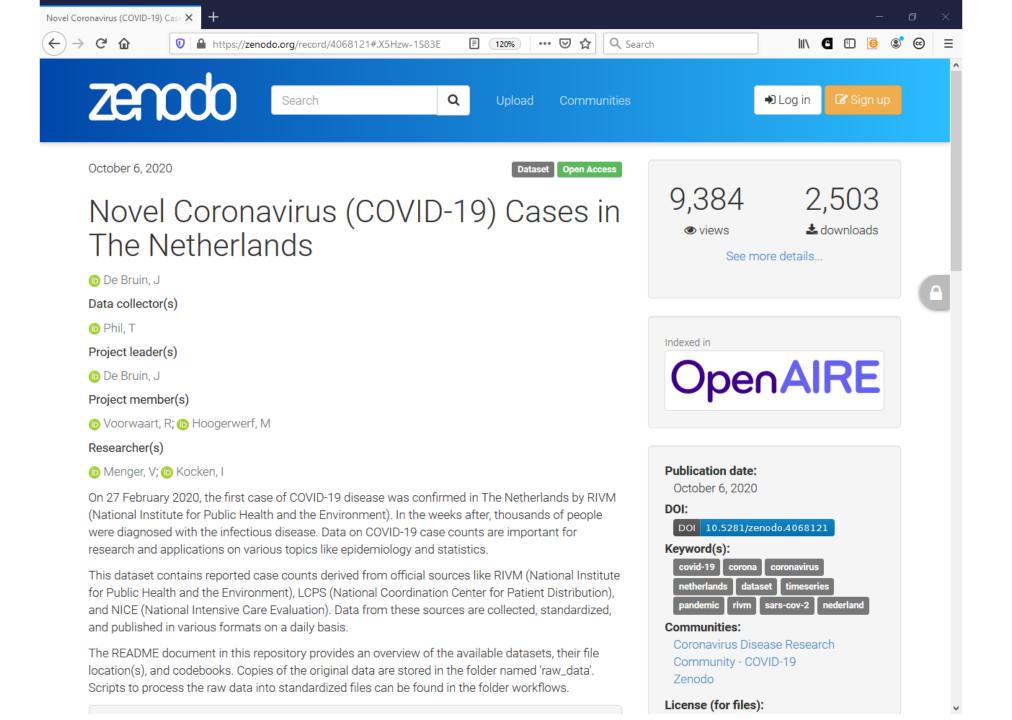


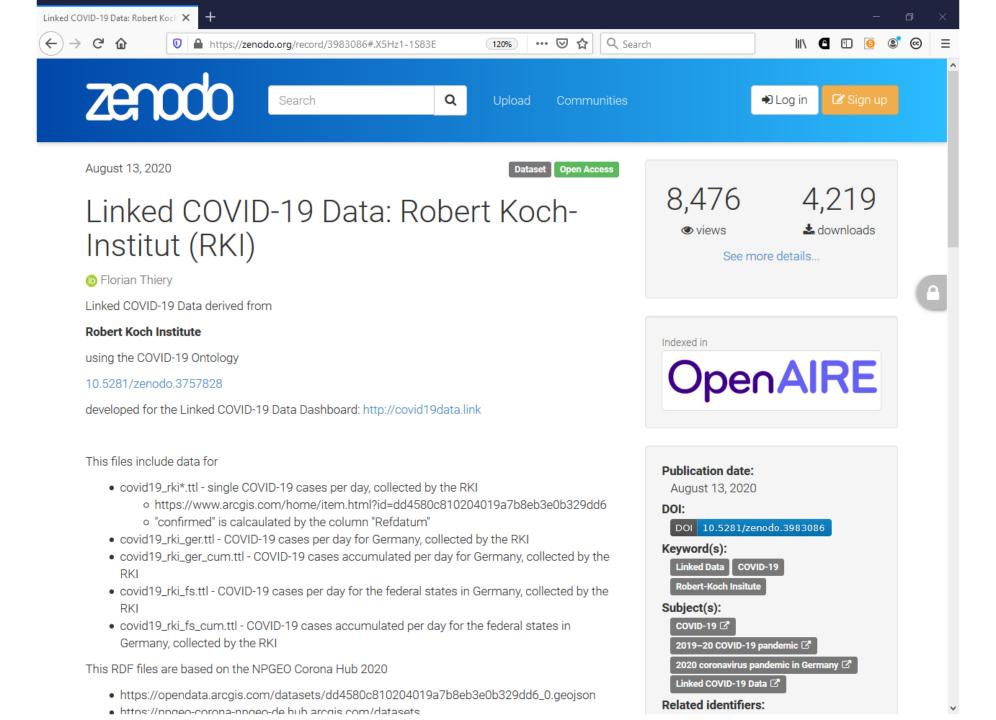


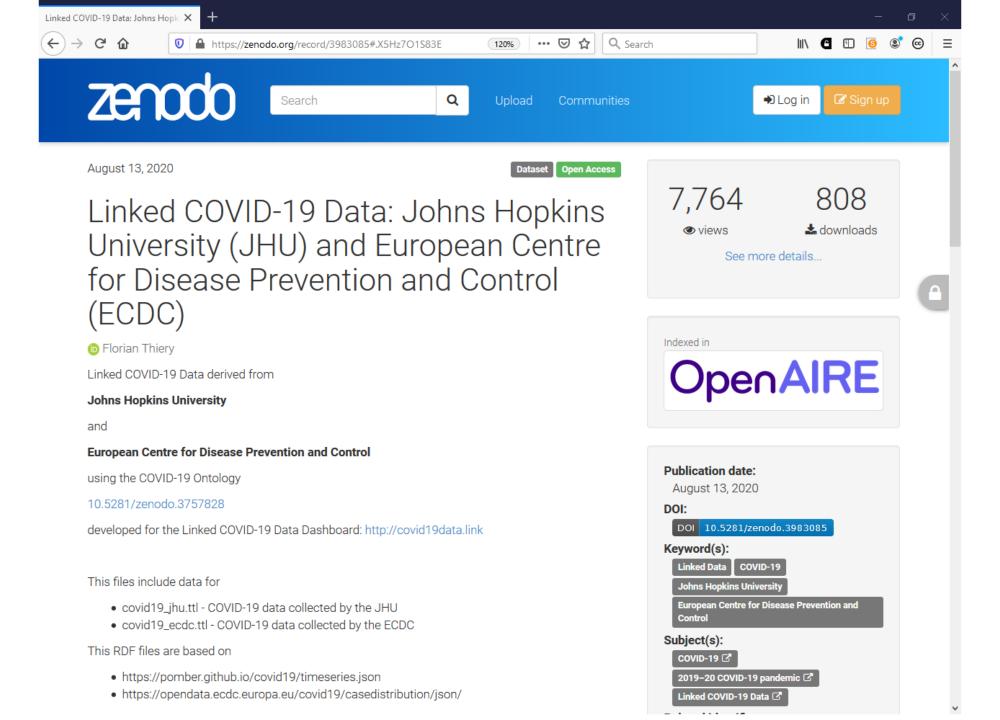


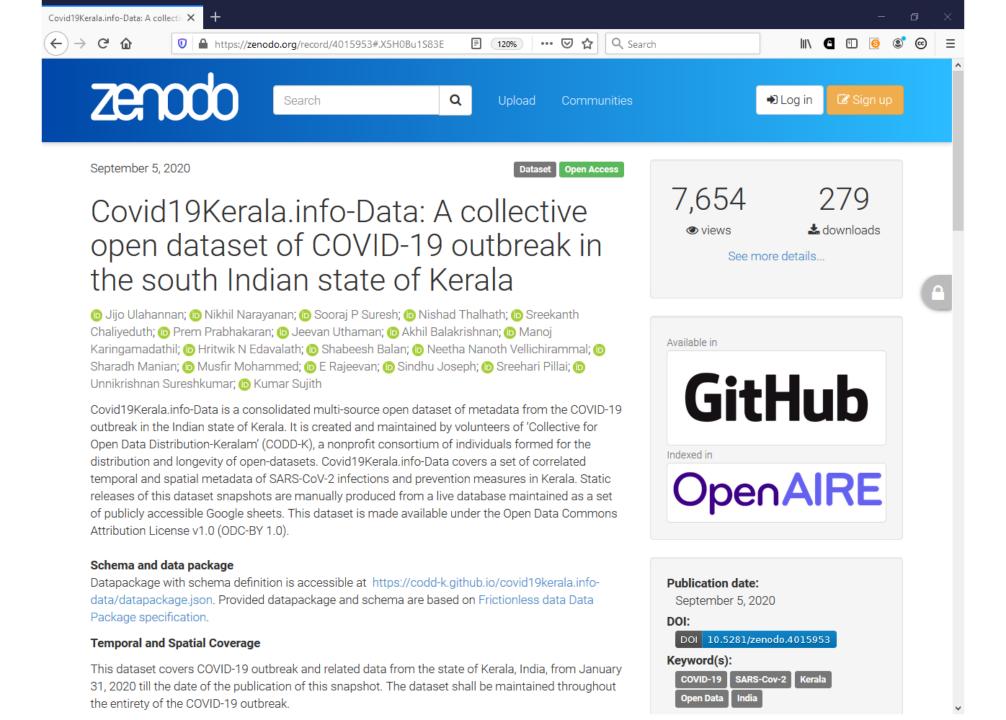


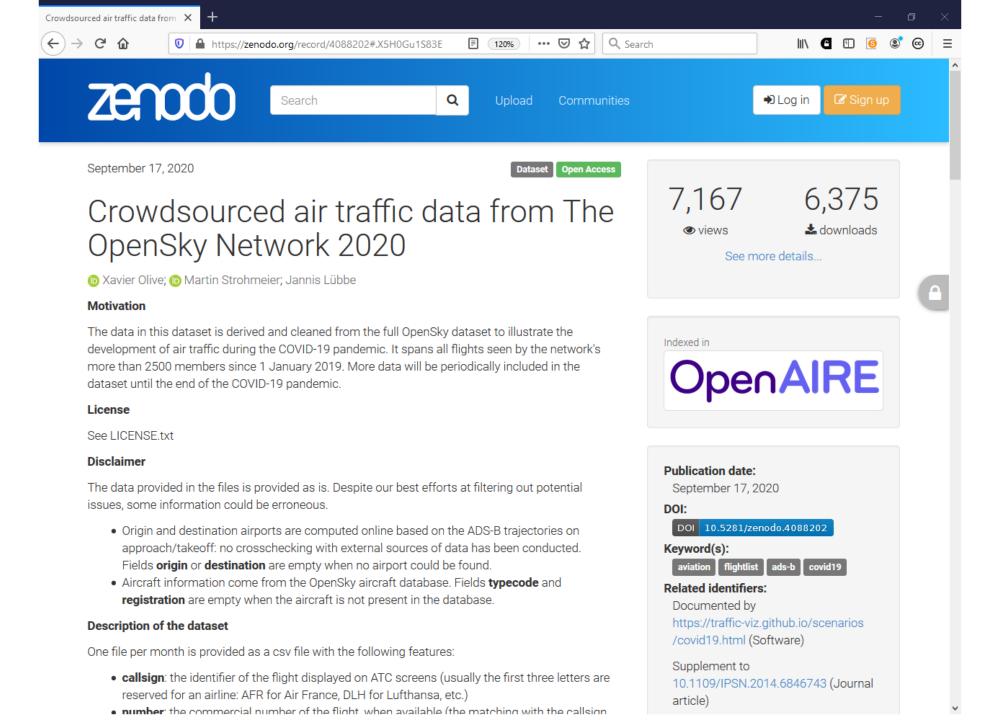












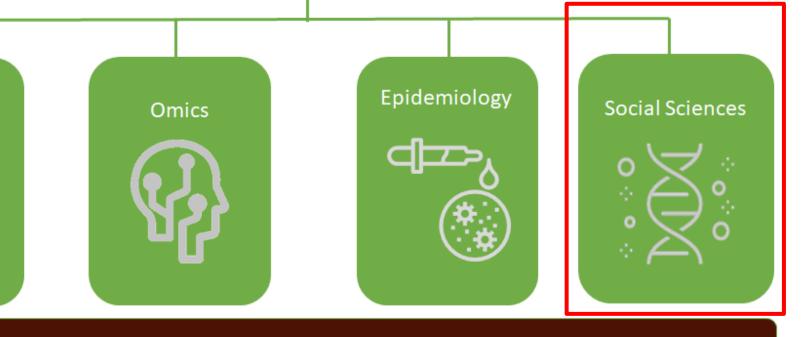


Clinical

#### RDA COVID-19 Guidelines and Recommendations

RDA COVID-19 Working Group. (2020, June 30).

http://doi.org/10.15497/rda00052



- April 1st through June 30th, 2020
- Weekly update webinar and writing sprint
- Over 600 data professional experts
- 4 Research domains and 4 cross cutting areas

Community Participation for Data Sharing under COVID-19

Indigenous Data under COVID-19

Legal and Ethical Considerations under COVID-19

Research Software and Data Sharing under COVID-19





# **Executive Summary: Key Recommendations**

- Coordinate cross-jurisdictional efforts to foster global Open Science through policy and investment.
- 2 Incentivise early publication and release of data and software outputs.
- Invest in state-of-the-art IT, data management systems infrastructure, economies of scale, and people.
- Data, software and models should be timely and FAIR: Findable, Accessible, Interoperable, Reusable.
- 5 Require the use of Data Management Plans.
- Use common generic as well as domain-specific metadata standards, and persistent identifiers.
- Provide **documentation** of context, methodologies used to define, construct, and compile data, data cleaning and quality checks, data imputation, and data provenance.

- 8 Use Trustworthy Data Repositories committed to the longterm preservation and sustained access to their data holdings.
- Expedite article and data review processes, prioritising and fast-tracking data at all stages.
- 10 Balance ethics and privacy, taking into account public interests and benefits while addressing the health crisis.
- Access should be as open as possible and as closed as necessary.
- Seek technical solutions that ensure anonymisation, encryption, privacy protection, and de-identification to increase trust in data sharing.
- Provide legal frameworks that promote sharing of surveillance data across jurisdictions and sectors.







# Спасибо! Вопросы!?

iryna.kuchma@eifl.net

