

The OpenAIRE COVID-19 gateway:  
discovering coronavirus research  
results at the time of the  
COVID-19 emergency



# OpenAIRE COVID-19 Gateway

- Single access point for discovery and navigation of research results and resources on the Coronavirus disease and SARS-CoV-2.
- Not only publications but also data, software, protocols and more.
- Open Science activities to help researchers fight the pandemic and understand its aftermath.



- Discoverability
- Synchronize efforts and collaboration



Fast sharing →  
Zenodo community



Data management →  
RDA guidelines on COVID-19  
data sharing



Involvement of  
domain experts



Building of the  
thematic gateway(s)

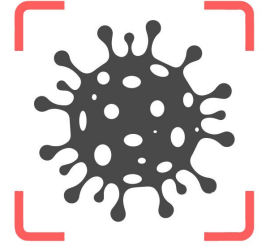
**+100k** publications; **5,5k** research data; **440** software,  
**6k** other research outputs, **130** projects dedicated to the pandemic

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





OpenAIRE COVID-19 Gateway

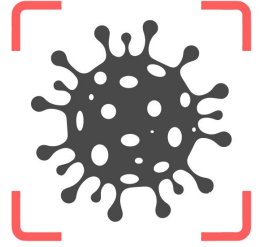


## Fast sharing, synchronization of efforts and collaboration

- Single access point for discovery and navigation of research results and resources on the Coronavirus disease and SARS-CoV-2.
- Not only publications but also data, software, protocols and more.
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## OpenAIRE COVID-19 Gateway - Building of the gateway



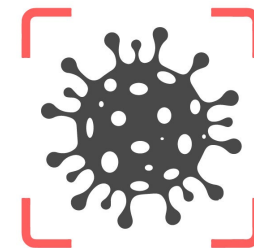
### A (thematic) open metadata research graph



- All COVID-19 related research results are linked to people, organizations, projects and fundings.
- Relevant products in OpenAIRE research graph
- Other and authoritative sources worldwide
- Public up-to-date list of data sources
- research products COVID-19 related and uploaded in the Zenodo community
- Authenticated users linking scientific products to the "COVID-19" community (moderated)
- Information available via a target set the OpenAIRE APIs (LOD, REST) or via periodic dumps in Zenodo.



## OpenAIRE COVID-19 Gateway – Building of the thematic gateway



Set up of different processes  
to identify research outcomes

Single entry point

- Extensive set of keywords (free text and from subject classification schemes)
- Full-text mining
- Analysis of the OpenAIRE Research Graph and exploiting the links between publications, datasets, and funding projects
- Manual addition of research outcomes (with a DOI)

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

Corona Virus Disease  
COVID-19

Research outcomes Search by title, author, abstract, DOI, orcid... SEARCH  
Advanced Search

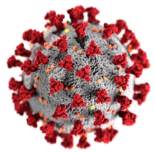
SUMMARY	PUBLICATIONS	RESEARCH DATA	SOFTWARE	OTHER RESEARCH
	106,100	5,827	493	7,344

This portal provides access to publications, research data, projects and software that may be relevant to the Corona Virus Disease (COVID-19). The OpenAIRE COVID-19 Gateway aggregates COVID-19 related records, links them and provides a single access point for discovery and navigation. We tag content from the OpenAIRE Research Graph (10,000+ data sources) and additional sources. All COVID-19 related research results are linked to people, organizations and projects, providing a contextualized navigation.

Curated by: Alessia Bardi, Iryna Kuchma, Evgeny Bobrov, Ivana Truccolo, Elizabete Monteiro ...  
View all 8 curators

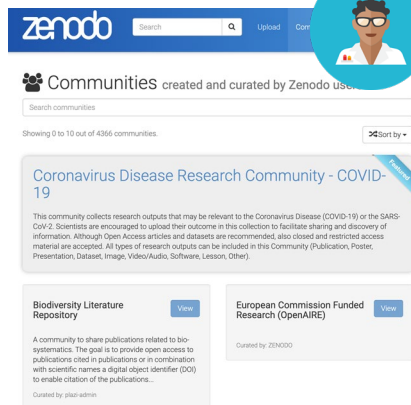
Created: 16-Mar-2020 Members: 37

Subjects  
COVID19, SARS-CoV, HCoV-19, mesh:C000657245, MERS-CoV, Sindrome Respiratorio Agudo Severo, mesh:COVID-19, COVID2019, COVID-19, SARS-CoV-2, 2019 novel coronavirus, severe acute respiratory syndrome coronavirus 2, Orthocoronavirinae, Coronaviridae, mesh:D045169, coronavirus, SARS, coronaviruses, coronavirus disease-19, sars cov 2



1

10,000 OpenAIRE validated sources

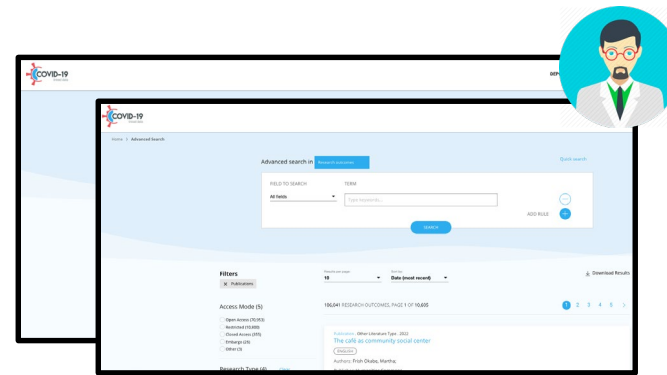


2

Zenodo COVID-19 community  
Deposit COVID-19 datasets, publications  
*Multidisciplinary*

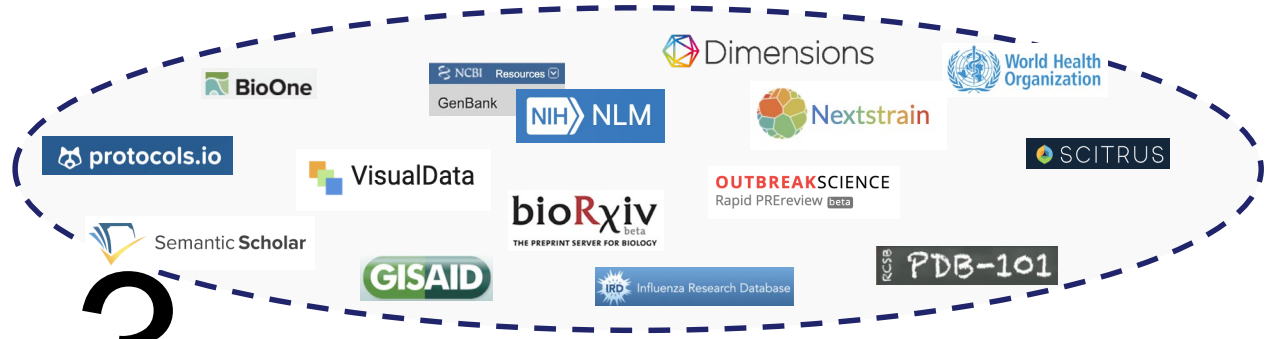


Mining for COVID-19



4

OpenAIRE COVID-19 Gateway  
Discover, navigate, link



3

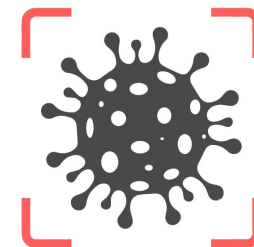
Additional global COVID-19 sources

5 APIs  
REST, Zenodo dump, CSV downloads

OpenAIRE




# OpenAIRE COVID-19 Gateway



## Involvement of domain experts:

Various call for experts:

- Call for experts among researchers, librarians, research managers
- Creation of [public list of "data sources"](#), updated thanks to [community suggestions via a dedicated form](#)
- Call for curators of the Zenodo community



### OpenAIRE call for covid-19 resources

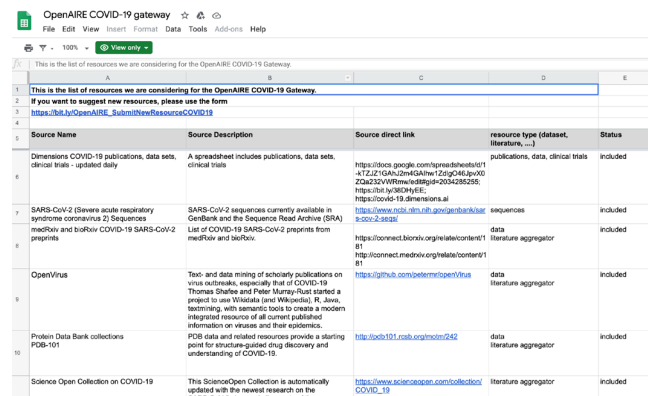
Help us populate the OpenAIRE COVID-19 Gateway, an OpenAIRE Research Community Dashboard.

We are compiling a masterlist of resources to be used as sources for the Gateway and we need your help.

We already have a growing collection (accessible here [bit.ly/OpenAIRE\\_COVID19GatewayResources](https://bit.ly/OpenAIRE_COVID19GatewayResources)) but no doubt we are missing crucial sources of information!

If you have a suggestion, please let us know by filling in the form below.

\* Required

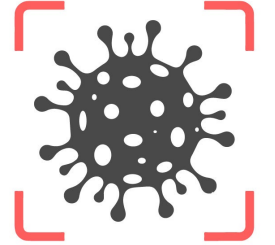


Source Name	Source Description	Source direct link	resource type (dataset, literature, ...)	Status
Dimensions COVID-19 publications, data sets, clinical trials - updated daily	A spreadsheet includes publications, data sets, clinical trials	<a href="https://docs.google.com/spreadsheets/d/1TZZ1QAa2m6GAhw7Z0pM6pW0Za0z2VvRf0m0ed0p0u003426205">https://docs.google.com/spreadsheets/d/1TZZ1QAa2m6GAhw7Z0pM6pW0Za0z2VvRf0m0ed0p0u003426205</a>	publications, data, clinical trials	included
SARS-CoV-2 (Severe acute respiratory syndrome coronavirus 2) Sequences	SARS-CoV-2 sequences currently available in GenBank and the Sequence Read Archive (SRA)	<a href="https://www.ncbi.nlm.nih.gov/genbank/sra/sra-cov2-seq/">https://www.ncbi.nlm.nih.gov/genbank/sra/sra-cov2-seq/</a>	sequences	included
medRxiv and bioRxiv COVID-19 SARS-CoV-2 preprints	List of COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv.	<a href="https://connect.biorxiv.org/related/content/181">https://connect.biorxiv.org/related/content/181</a>	data	included
OpenVirus	Text- and data mining of scholarly publications on virus outbreaks, especially that of COVID-19. Thomas Sharpe and Peter Murray-Rust started a project to use Wikidata (and Wikispecies, R, Java, Terminim, with semantic tools to create a modern integrated resource of all current published information on viruses and their epidemics.	<a href="https://github.com/beterim/openVirus">https://github.com/beterim/openVirus</a>	data	included
Protein Data Bank collections PDB-101	PDB data and related resources provide a starting point for structure-guided drug discovery and understanding of COVID-19.	<a href="http://dx.doi.org/10.1101/2020.04.24.2008242">http://dx.doi.org/10.1101/2020.04.24.2008242</a>	data	included
Science Open Collection on COVID-19	This ScienceOpen Collection is automatically updated with the newest research on the COVID-19	<a href="https://www.scienceopen.com/collection/covid-19">https://www.scienceopen.com/collection/covid-19</a>	literature aggregator	included

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



OpenAIRE COVID-19 Gateway - Zenodo community

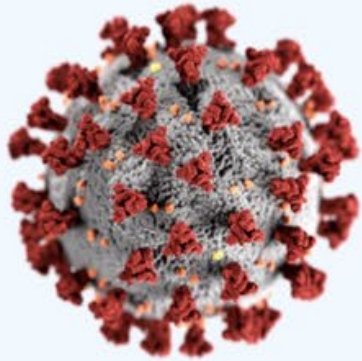


## Fast sharing

- Deposit research products related to the pandemic <https://zenodo.org/communities/covid-19/>
- FAIRness and reusability of research results
- All types of research outputs can be included in this Community (Publication, Poster, Presentation, Dataset, Image, Video/Audio, Software, Lesson, Other)
- The contents of the community automatically feed the graph (covid-19 gateway)
- Curated by a team of experts
- Open Access records are recommended, but also closed and restricted access material are accepted
- Link per upload: <https://zenodo.org/deposit/new?c=covid-19>

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





## Coronavirus Disease Research Community - COVID-19

Browse

New upload

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).

Featured

## Coronavirus Disease Research Community - COVID-19

All versions

Found 984 results.

< 1 2 3 4 5 6 7 8 9 >

Sort by:

Most recent  
asc.

Access Right

- Open (964)
- Restricted (11)
- Closed (9)

File Type

- Pdf (399)
- Zip (300)
- Xlsx (72)
- Csv (53)
- Gz (28)
- Docx (25)
- Png (25)
- Txt (24)
- (22)
- Tar (22)

October 15, 2020 (12-10-20) Software Open Access

### 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

Uploaded on October 15, 2020

32 more version(s) exist for this record

September 29, 2020 (v1) Dataset Open Access

### The scale and dynamics of COVID-19 epidemics across Europe

Dye, Christopher;

The number of COVID-19 deaths reported from European countries has varied more than 100-fold. In terms of coronavirus transmission, 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

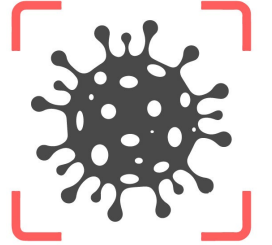
Uploaded on October 14, 2020

September 30, 2020 (1) Journal article Open Access

### Home Exercise-associated Accidents During COVID-19 Isolation. A Case Report



## OpenAIRE COVID-19 Gateway – RDA guidelines on COVID-19 data sharing



### Good data sharing

- RDA: The Research Data Alliance (RDA) builds the social and technical bridges to enable the open sharing and re-use of data.

Grass-roots, cross-discipline, inclusive approach covering all data lifecycle stages, engaging data producers, users and stewards, addressing data exchange, processing, and storage.

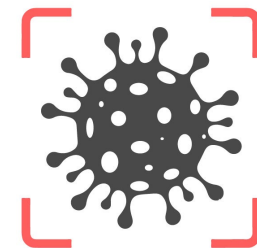
- RDA for COVID-19: Guidelines and recommendations to help researchers follow best practices to maximize the efficiency of their work (ie. Balancing timeliness and precision; encouraging researchers to publish data alongside their papers etc)

4 research areas (clinical, omics, epidemiology, social science) + 4 cross-cutting areas (community participation in data sharing, indigenous data, legal & ethical, research software).





## OpenAIRE COVID-19 Gateway – RDA guidelines on COVID-19 data sharing



### Overarching considerations



- Coordinated, cross-jurisdictional efforts to foster global Open Science
- Infrastructure Investment & Economies of Scale
- FAIR and Timely outputs
- Early & frequently updated Data Management Planning
- Metadata essential for cross-disciplinary access
- Documentation of methodologies
- Use of Trusted Data Repositories (TDRs)
- Expedited Publications / Data Publications
- Ethical and legal considerations
- Legal frameworks

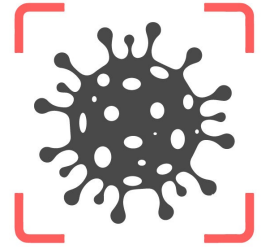
**RDA COVID-19** Working Group. Recommendations and Guidelines on data sharing. *Research Data Alliance, 2020.*

DOI: <https://doi.org/10.15497/rda00052>.

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



# OpenAIRE COVID-19 Gateway - APIs



## Json dumps on Zenodo

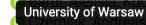
## CSV downloads

- HTTP API

August 12, 2020

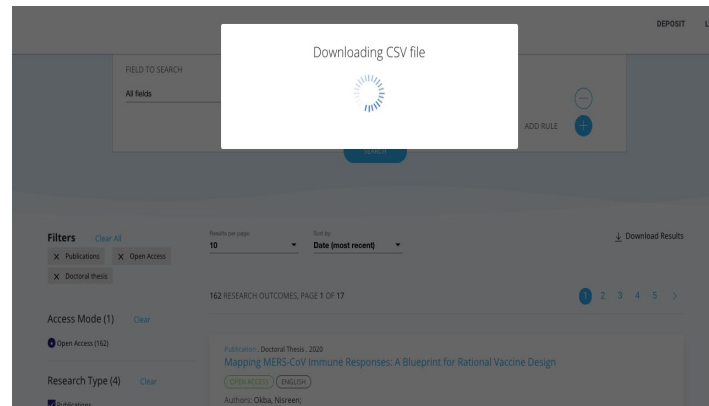
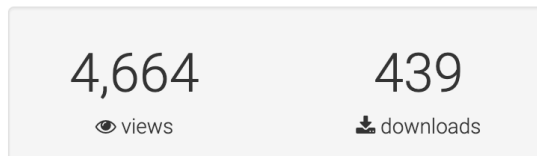
Dataset Open Access

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


 Pawlik, Aleksandra; Król, Iryna; Pavone, Gina; Artini, Michele; Atzori, Claudio; Bäcker, 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; Schirwagen, 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:

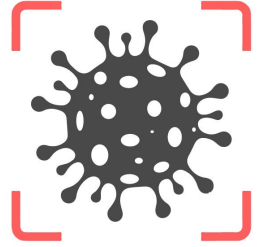
Type, Specific type, Title, Authors,  
 Publication Year, DOI, Download from,  
 Access Rights, Funder | Project Name (GA  
 Number), Journal

<http://api.openaire.eu/search/publications?community=covid-19>

XML or json format



## OpenAIRE COVID-19 Gateway – RDA guidelines on data sharing



### Useful links

Everything about OpenAIRE for COVID-19: <https://www.openaire.eu/openaire-activities-for-covid-19>

The OpenAIRE COVID-19 Gateway: <https://covid-19.openaire.eu>

The COVID-19 Zenodo community: <https://zenodo.org/communities/covid-19>

Everything about the OpenAIRE Research Graph <https://graph.openaire.eu>