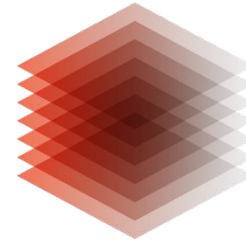


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Markus Stocker *und das ORKG Team*
UB-Bielefeld Kolloquium Wissensinfrastrukturen
20.05.2022

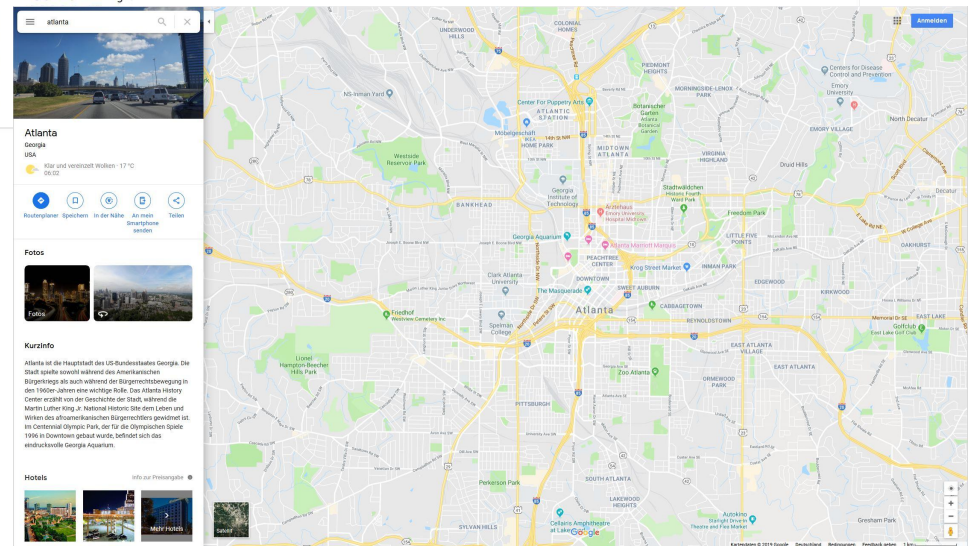
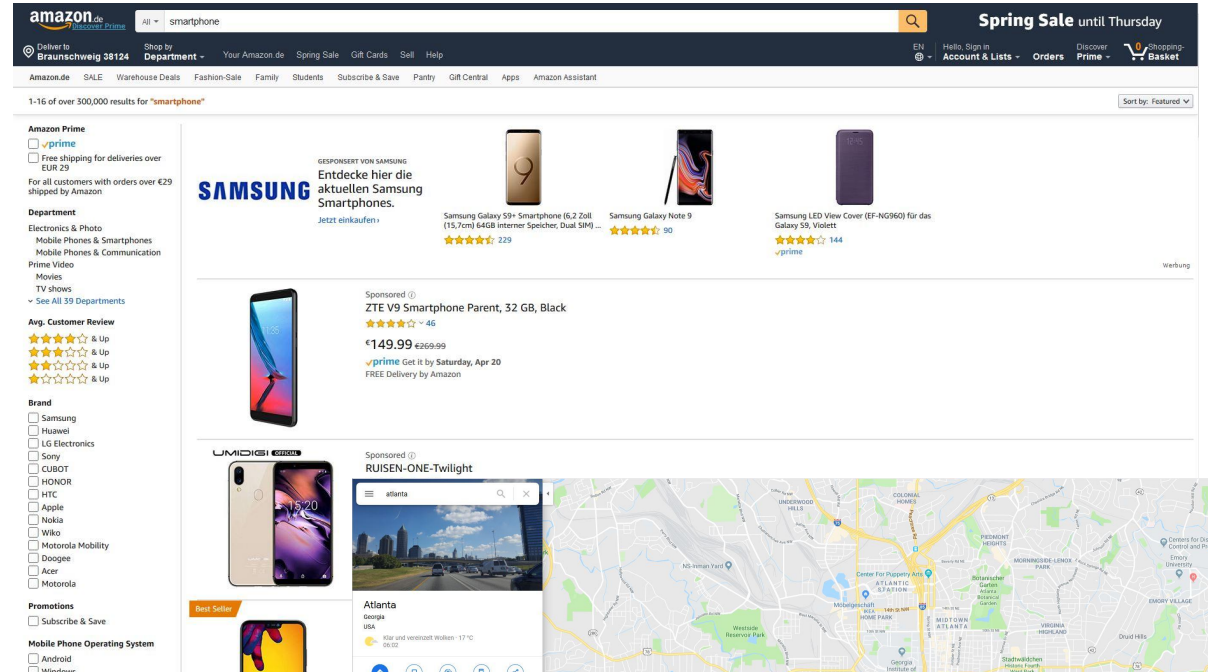


Leibniz
Gemeinschaft

Kurz über mich

- Leitung Forschungsgruppe Wissensinfrastrukturen
- Seit Q4 2017 and der TIB, ORKG co-lead, Management ENVRI-FAIR und NFDI Projekte
- MSc in Informatik, auch mit Schwerpunkt Semantic Web (U. Zürich)
- PhD in Umweltinformatik, inkl. MSc in Umweltwissenschaften (U. Eastern Finland)
- Forschungsinteressen in Neurosymbolische Hybride Systeme, Forschungsinfrastrukturen, Forschungsdatenmanagement, und generell die Produktion und Nachnutzung von wiss. Wissen

Digitalisierung im 21. Jahrhundert



Digitalisierung in der Wissenschaft



1665

LE IOURNAL
DES SCAVANS,
Du Lundy V. Iannier, M. DC. LXV.
Per le Sieur DE HEDOVILLE.

VICTORIS VITENSIS, ET VIGILII
Tapsensis, Pronincia Bisacena Episcoporum opera,
Edente R. P. Chifletio, Soc. Iesu Presb. in A. Diniont.

LE seul ouvrage qui nous reste de Victor Vitensis est l'histoire de la perfection d'Afrique, sous les Wandales. On voit par le commencement de cette histoire qu'il l'écrivit l'an 487. Nous avions déjà cet ouvrage dans la Bibliothèque des Peres, sous le nom de Victor Vitensis; mais tous les sçavans demeurent presensentement d'accord, qu'il est de Victor Vitensis. De plus, cette histoire estoit desfectueuse dans la Bibliothèque des Peres; car on n'y voit point la liste des Euesques d'Afrique qui se trouvoient enuoloppez dans cette perfection. Cependant c'est vne piece excellente, & qui peut beaucoup servir à l'éclaircissement de plusieurs difficultez de l'histoire Ecclesiastique. C'est pourquoy cette édition de Victor Vitensis, est beaucoup plus parfaite que toutes les precedentes.

1850

[61]

III. *On the Mechanical Equivalent of Heat.* By JAMES PRESCOTT JOULE, F.C.S., Sec. Lit. and Phil. Society, Manchester, Cor. Mem. R.A., Turin, &c. Communicated by MICHAEL FARADAY, D.C.L., F.R.S., Foreign Associate of the Academy of Sciences, Paris, &c. &c. &c.

Received June 6.—Read June 21, 1849.

"Heat is a very brisk agitation of the insensible parts of the object, which produces in us that sensation from whence we denominate the object hot; so what in our sensation is *heat*, in the object is nothing but *motion*."—LOCKE.

"The force of a moving body is proportional to the square of its velocity, or to the height to which it would rise against gravity."—LEIBNITZ.

IN accordance with the pledge I gave the Royal Society some years ago, I have now the honour to present it with the results of the experiments I have made in order to determine the mechanical equivalent of heat with exactness. I will commence with a slight sketch of the progress of the mechanical doctrine, endeavouring to confine myself, for the sake of conciseness, to the notice of such researches as are immediately connected with the subject. I shall not therefore be able to review the valuable labours of Mr. FORBES and other illustrious men, whose researches on radiant heat and other subjects do not come exactly within the scope of the present memoir.

For a long time it had been a favourite hypothesis that heat consists of "a force or power belonging to bodies," but it was reserved for Count RUMFORD to make the first experiments decidedly in favour of that view. That justly celebrated natural philosopher demonstrated by his ingenious experiments that the very great quantity of heat excited by the boring of cannon could not be ascribed to a change taking place in the caloric capacity of the metal; and he therefore concluded that the motion of the borer was communicated to the particles of metal, thus producing the phenomena of heat:—"It appears to me," he remarks, "extremely difficult, if not quite impossible, to form any distinct idea of anything, capable of being excited and communicated, in the manner the heat was excited and communicated in these experiments, except it be motion †."

One of the most important parts of Count RUMFORD's paper, though one to which

* Crawford on Animal Heat, p. 15.
† "An Inquiry concerning the Source of the Heat which is excited by Friction." Phil. Trans. Abridged, vol. xviii. p. 286.

2017

European Heart Journal (2017) 38, 362–372
doi:10.1093/eurheartj/ehw333

BASIC SCIENCE

Iron-regulatory proteins secure iron availability in cardiomyocytes to prevent heart failure

Saba Haddad^{1,2}, Yong Wang^{1,2}, Bruno Galy^{3,4}, Mortimer Korf-Klingebiel^{1,2}, Valentin Hirsch^{1,2}, Abdul M. Baru^{1,2}, Fatemeh Rostami^{1,2}, Marc R. Reboll^{1,2}, Jörg Heineke⁵, Ulrich Flögel⁶, Stephanie Groos⁶, André Renner⁷, Karl Toischer⁸, Fabian Zimmermann⁹, Stefan Engel¹⁰, Jens Jordan¹⁰, Johann Bauersachs², Matthias W. Hentze³, Kai C. Wollert^{1,2}, and Tibor Kempf^{1,2*}

¹Division of Molecular and Translational Cardiology, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany; ²Department of Cardiology and Angiology, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany; ³European Molecular Biology Laboratory, Meyerhofstrasse 1, 69117 Heidelberg, Germany; ⁴Division of Viro-associated Cardiology, German Cancer Research Centre, Im Neuenheimer Feld 280, 69120 Heidelberg, Germany; ⁵Department of Molecular Cardiology, University of Düsseldorf, Universitätsstrasse 1, 40225 Düsseldorf, Germany; ⁶Institute of Cell Biology, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany; ⁷Department of Thoracic and Cardiovascular Surgery, University of Bochum, Georgstrasse 11, 35345 Bad Oeynhausen, Germany; ⁸Department of Cardiology and Pneumology, University of Göttingen, Robert-Koch-Strasse 40, 38103 Göttingen, Germany; ⁹Department of Analytical Chemistry, Leibniz University Hannover, Callinstrasse 1, 30167 Hannover, Germany; and ¹⁰Institute of Clinical Pharmacology, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany

Received 30 November 2015; revised 27 June 2016; accepted 17 July 2016; online published ahead of print 21 August 2016

See page 373 for the editorial comment on this article (doi:10.1093/eurheartj/ehw336)

Aims Iron deficiency (ID) is associated with adverse outcomes in heart failure (HF) but the underlying mechanisms are incompletely understood. Intracellular iron availability is secured by two mRNA-binding iron-regulatory proteins (IRP), IRP1 and IRP2. We generated mice with a cardiomyocyte-targeted deletion of Irp1 and Irp2 to explore the functional implications of ID in the heart independent of systemic ID and anaemia.

Methods and results Iron content in cardiomyocytes was reduced in Irp-targeted mice. The animals were not anaemic and did not show a phenotype under baseline conditions. Irp-targeted mice, however, were unable to increase left ventricular (LV) systolic function in response to an acute dobutamine challenge. After myocardial infarction, Irp-targeted mice developed more severe LV dysfunction with increased HF mortality. Mechanistically, the activity of the iron-sulphur cluster-containing complex I of the mitochondrial electron transport chain was reduced in left ventricles from Irp-targeted mice. As demonstrated by extracellular flux analysis in vitro, mitochondrial respiration was preserved at baseline but failed to increase in response to dobutamine in Irp-targeted cardiomyocytes. As shown by ³¹P-magnetic resonance spectroscopy in vivo, LV phosphocreatine/ATP ratio declined during dobutamine stress in Irp-targeted mice but remained stable in control mice. Intravenous injection of ferric carboxymaltose replenished cardiac iron stores, restored mitochondrial respiratory capacity and inotropic reserve, and attenuated adverse remodelling after myocardial infarction in Irp-targeted mice but not in control mice. As shown by electrophoretic mobility shift assays, IRP activity was significantly reduced in LV tissue samples from patients with advanced HF and reduced LV tissue iron content.

Conclusions ID in cardiomyocytes impairs mitochondrial respiration and adaptation to acute and chronic increases in workload. Iron supplementation restores cardiac energy reserve and function in iron-deficient hearts.

Keywords Iron deficiency • Heart failure • Energy metabolism • Extracellular flux analysis • ³¹P-Magnetic resonance spectroscopy

*Corresponding author. Tel: +49 (0)511 532-2222; Fax: +49 (0)511 532-3357; Email: kempf.tibor@mh-hannover.de
Published on behalf of the European Society of Cardiology. All rights reserved. © The Author 2016. For permission please email: journals.permissions@oxfordjournals.org



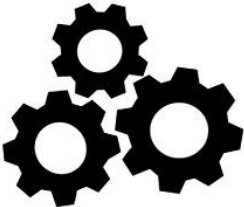

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<https://doi.org/10.1098/rstl.1850.0004>

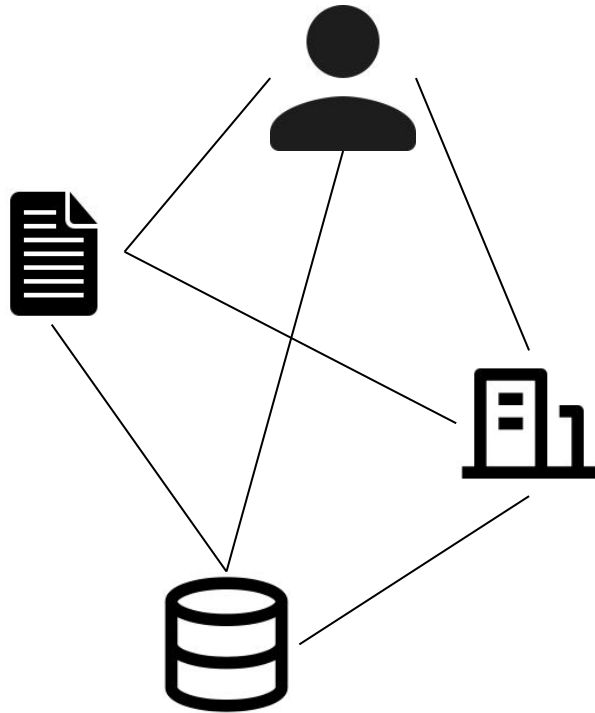
<http://doi.org/10.1093/eurheartj/ehw333>

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not F_{indable} A_{ccessible} I_{nteroperable} R_{eusable}

Nicht ganz so schlimm ...



Können wir das was heute für Metadaten möglich ist auch für Daten umsetzen, also für die wiss. Information in Beiträgen?



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Research
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<https://orkg.org>

Quantitative Biology > Populations and Evolution

COVID-19 e-print

Important: e-prints posted on arXiv are not peer-reviewed by arXiv; they should not be relied upon without context to guide clinical practice or health-related behavior and should not be reported in news media as established information without consulting multiple experts in the field.

*[Submitted on 20 Mar 2020]***The early phase of the COVID-19 outbreak in Lombardy, Italy**

Cereda D, Tirani M, Rovida F, Demicheli V, Ajelli M, Poletti P, Trentini F, Guzzetta G, Marziano V, Barone A, Magoni M, Deandrea S, Diurno G, Lombardo M, Faccini M, Pan A, Bruno R, Pariani E, Grasselli G, Piatti A, Gramegna M, Baldanti F, Melegaro A, Merler S

In the night of February 20, 2020, the first case of novel coronavirus disease (COVID-19) was confirmed in the Lombardy Region, Italy. In the week that followed, Lombardy experienced a very rapid increase in the number of cases. We analyzed the first 5,830 laboratory-confirmed cases to provide the first epidemiological characterization of a COVID-19 outbreak in a Western Country. Epidemiological data were collected through standardized interviews of confirmed cases and their close contacts. We collected demographic backgrounds, dates of symptom onset, clinical features, respiratory tract specimen results, hospitalization, contact tracing. We provide estimates of the reproduction number and serial interval. The epidemic in Italy started much earlier than February 20, 2020. At the time of detection of the first COVID-19 case, the epidemic had already spread in most municipalities of Southern-Lombardy. The median age for of cases is 69 years (range, 1 month to 101 years). 47% of positive subjects were hospitalized. Among these, 18% required intensive care. The mean serial interval is estimated to be 6.6 days (95% CI, 0.7 to 19). We estimate the basic reproduction number at 3.1 (95% CI, 2.9 to 3.2). We estimated a decreasing trend in the net reproduction number starting around February 20, 2020. We did not observe significantly different viral loads in nasal swabs between symptomatic and asymptomatic. The transmission potential of COVID-19 is very high and the number of critical cases may become largely unsustainable for the healthcare system in a very short-time horizon. We observed a slight decrease of the reproduction number, possibly connected with an increased population awareness and early effect of interventions. Aggressive containment strategies are required to control COVID-19 spread and catastrophic outcomes for the healthcare system.

Subjects: [Populations and Evolution \(q-bio.PE\)](#)Cite as: [arXiv:2003.09320 \[q-bio.PE\]](#)(or [arXiv:2003.09320v1 \[q-bio.PE\]](#) for this version)**Bibliographic data**[\[Enable Bibex \(What is Bibex?\)\]](#)**Submission history**From: Alessia Melegaro [\[view email\]](#)**[v1]** Fri, 20 Mar 2020 15:17:36 UTC (988 KB)[Which authors of this paper are endorsers?](#) | [Disable MathJax \(What is MathJax?\)](#)**Download:**

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Results

The epidemic in Italy started much earlier than February 20, 2020. At the time of detection of the first COVID-19 case, the epidemic had already spread in most municipalities of Southern-Lombardy. The median age for of cases is 69 years (range, 1 month to 101 years). 47% of positive subjects were hospitalized. Among these, 18% required intensive care. The mean serial interval is estimated to be 6.6 days (95% CI, 0.7 to 19). We estimate the basic reproduction number at 3.1 (95% CI, 2.9 to 3.2). We estimated a decreasing trend in the net reproduction number starting around February 20, 2020. We did not observe significantly different viral loads in nasal swabs between symptomatic and asymptomatic.

Here we provide an analysis of the first 5,830 laboratory-confirmed cases reported in Lombardy, with date of symptoms onset over the period from January 14 to March 8, 2020. Epidemiological analyses of the confirmed cases and their background demographic and exposure characteristics are presented here as well as the transmission dynamics of the infection within the Region. Also, the virological analysis on a subsample of the reported cases is included to provide preliminary assessment of the level of the viral load among symptomatic and asymptomatic cases.



View paper

The early phase of the COVID-19 outbreak in Lombardy, Italy

- March 2020 Virology D Cereda Marcello Tirani Francesca Rovida V Demicheli Marco Ajelli Piero Poletti filippo trentini Giorgio Guzzetta Valentina Marziano A Barone M Magoni Silvia Deandrea G Diurno M Lombardo M Faccini A Pan R Bruno ELENA PARIANI Giacomo Grasselli A Piatti M Gramegna Fausto Baldanti Alessia Melegaro stefano merler

Published in: arXiv.org

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Contribution 1

Research problems

Determination of the COVID-19 basic reproduction number

Add to comparison

Contribution data

Table with 2 columns: Attribute (Basic reproduction number, Location, Time period) and Value (3.1, Lombardy, Italy, 2020-01-14 - 2020-03-08)

Similar contributions

- 79% Estimating the generation interval for COVID-19 based on symptom onset data Contribution 2
79% Estimating the generation interval for COVID-19 based on symptom onset data Contribution 1
79% Transmission potential of COVID-19 in Iran Contribution 1

Provenance Timeline

Belongs to observatory

COVID-19



Added on

22 Jun 2020

Added by



Contributors

- Kheir Eddine Lisa-Marie Zarwell Markus Stocker Soren Auer Allard Oelen Kamel Golsa



View paper

View paper Graph view Edit

The early phase of the COVID

- March 2020
- Virology
- D Ceredi
- filippo trentini
- Giorgio Guzzetta
- M Lombardo
- M Faccini
- A Pan
- Fausto Baldanti
- Alessia Melegaro

Published in: arXiv.org

Contribution 1

Research problems

Determination of the COVID-19 basic

Contribution data

Basic reproduction number

Location

Time period

2020-01-14 - 2020-03-08

Similar contributions

79% Estimating the generation interval for COVID-19 based on symptom onset data Contribution 2

79% Estimating the generation interval for COVID-19 based on symptom onset data Contribution 1

79% Transmission potential of COVID-19 in Iran Contribution 1

Added by

Golsa

Contributors

- Kheir Eddine
- Lisa-Marie Zarwell
- Markus Stocker
- Sören Auer
- Allard Oelen
- Kamel
- Golsa

Add to comparison

Research problems

Determination of the COVID-19 basic reproduction number

Contribution data

Basic reproduction number

3.1

Location

Lombardy, Italy

Time period

2020-01-14 - 2020-03-08



View paper

View paper Graph view Edit

Add to comparison

Research problems

Determination of the COVID-19 basic reproduction number

Contribution data

← Back **Contributions** Basic reproduction number → Basic reproduction number e...

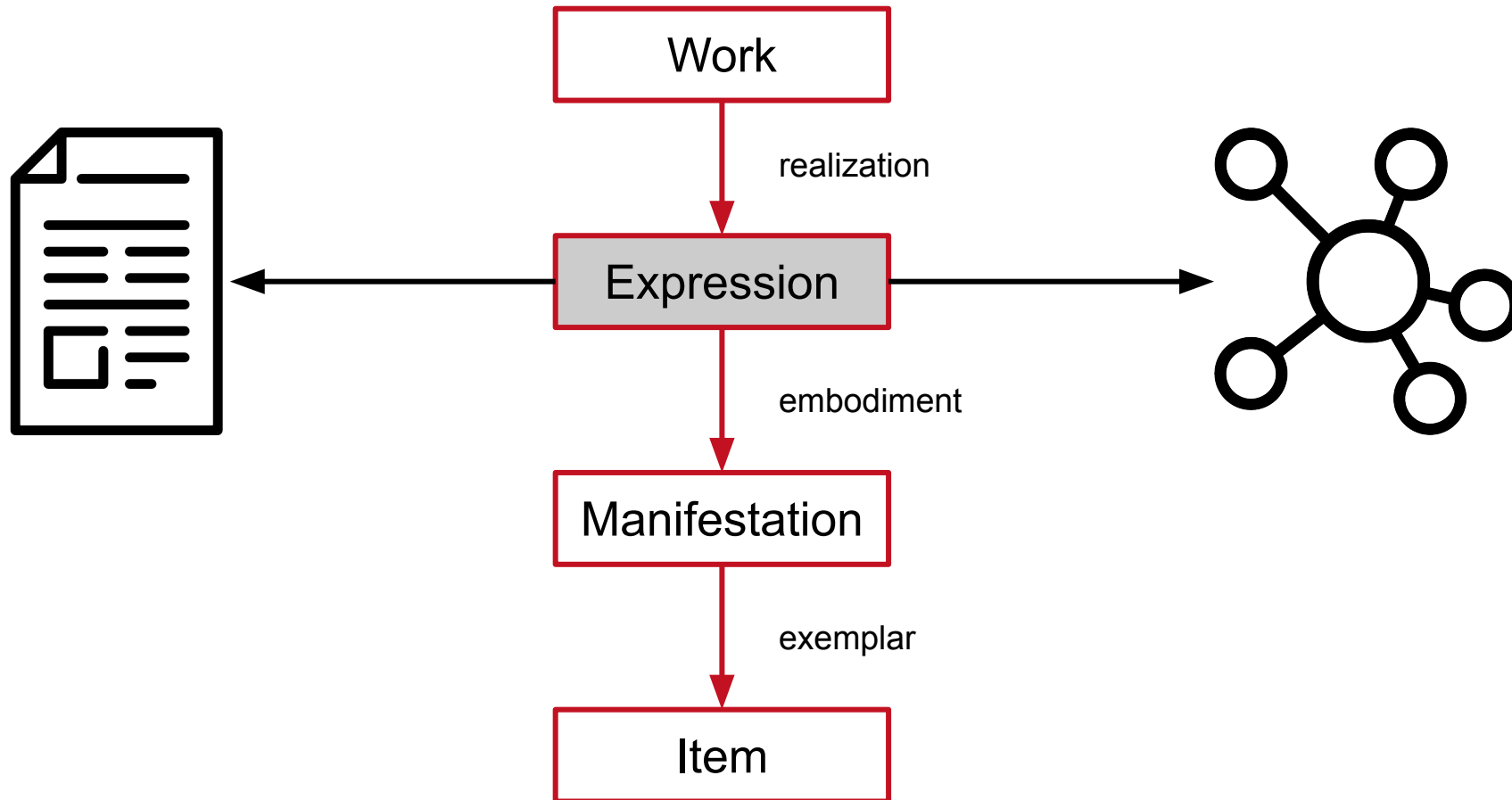
Confidence interval (95%)	2.9 - 3.2
Has value	3.1

Similar contributions

- 79% Estimating the generation interval for COVID-19 based on symptom onset data Contribution 2
- 79% Estimating the generation interval for COVID-19 based on symptom onset data Contribution 1
- 79% Transmission potential of COVID-19 in Iran Contribution 1

Contributors

- Kheir Eddine
- Lisa-Marie Zarwell
- Markus Stocker
- Sören Auer
- Allard Oelen
- Kamel
- Golsa




Properties	The early phase of the COVID-19 outbreak in Lombardy, Italy <i>2020 - Contribution 1</i>	Transmission potential of COVID-19 in Iran <i>2020 - Contribution 1</i>	Transmission potential of COVID-19 in Iran <i>2020 - Contribution 2</i>	Estimating the generation interval for COVID-19 based on symptom onset data <i>2020 - Contribution 1</i>	Estimating the generation interval for COVID-19 based on symptom onset data <i>2020 - Contribution 2</i>
Location	Lombardy, Italy	Iran	Iran	Singapore	Singapore
Time period	Time interval	Time interval	Time interval	Time interval	Time interval
Has beginning	2020-01-14	2020-02-19	2020-02-19	2020-01-21	2020-01-21
Has end	2020-03-08	2020-02-29	2020-02-29	2020-02-26	2020-02-26
Basic reproduction number	Basic reproduction number estimate value specification	Basic reproduction number estimate value specification	Basic reproduction number estimate value specification	Basic reproduction number estimate value specification	Basic reproduction number estimate value specification
Has value	3.1	3.6	3.58	1.27	1.25
Confidence interval (95%)	Confidence interval (95%)	Confidence interval (95%)	Confidence interval (95%)	Confidence interval (95%)	Confidence interval (95%)
Lower confidence limit	2.9	3.4	1.29	1.19	1.17
Upper confidence limit	3.2	4.2	8.46	1.36	1.34


Properties	
Location	▼
Time period	▼
Has beginning	▼
Has end	▼
Basic reproduction number	▼
Has value	▼
Confidence interval (95%)	▼
Lower confidence limit	▼
Upper confidence limit	▼

The early phase of the COVID-19 outbreak in Lombardy, Italy
2020 - Contribution 1
Lombardy, Italy
Time interval
2020-01-14
2020-03-08
Basic reproduction number estimate value specification
3.1
Confidence interval (95%)
2.9
3.2

View existing resource: Lombardy, Italy


[Open resource](#) ✕

[← Back](#) [Continue location → Lombardy, Italy](#) 

 Instance of: [dc:Location](#)

same as

- <http://www.wikidata.org/entity/Q1210> Text
- <https://lobid.org/gnd/4036294-2> Text
- <https://sws.geonames.org/3174618/> Text

Description from Wikidata 

administrative region in Northern Italy

4.2	8.46	1.36	1.34
-----	------	------	------

Quantities, units, and conversions

Global Mean Sea Level (GMSL) rise projections

Global Mean Sea Level (GMSL) rise projections

March 2022 Golsa Heidari

Use **Shift + Mouse Wheel** for horizontal scrolling in the table.

Properties	Impacts of Antarctic fast dynamics on sea-level projections and coastal flood defense 2017 - RCP4.5 - 2050	Impacts of Antarctic fast dynamics on sea-level projections and coastal flood defense 2017 - RCP8.5 - 2050	Future sea level rise constrained by observations and long-term commitment 2016 - RCP8.5 - 2100	Future sea level rise constrained by observations and long-term commitment 2016 - RCP4.5 - 2100
climate scenario	RCP4.5	RCP8.5	RCP8.5	RCP4.5
Global Mean Sea level Rise Projection	quantity	quantity	quantity	quantity
qudt:numericValue	0.28	0.30	85	53
qudt:unit	Meter	Meter	Centimeter	Centimeter
qudt:quantityValue	quantityValue	quantityValue	quantityValue	quantityValue
has start of period	2000	2000	1986-2005	1986-2005
has end of period	2050	2050	2081-2100	2081-2100
has research problem	Global Mean Sea Level Rise Projections	Global Mean Sea Level Rise Projections	Global Mean Sea Level Rise Projections	Global Mean Sea Level Rise Projections

Create comparison visualization

[How to use ?](#)


Select

Map & edit

Visualize

Show input table

Visualization method

ScatterChart

X-axis

has beginning

Label

Contribution

Y-axis Label

R0 value

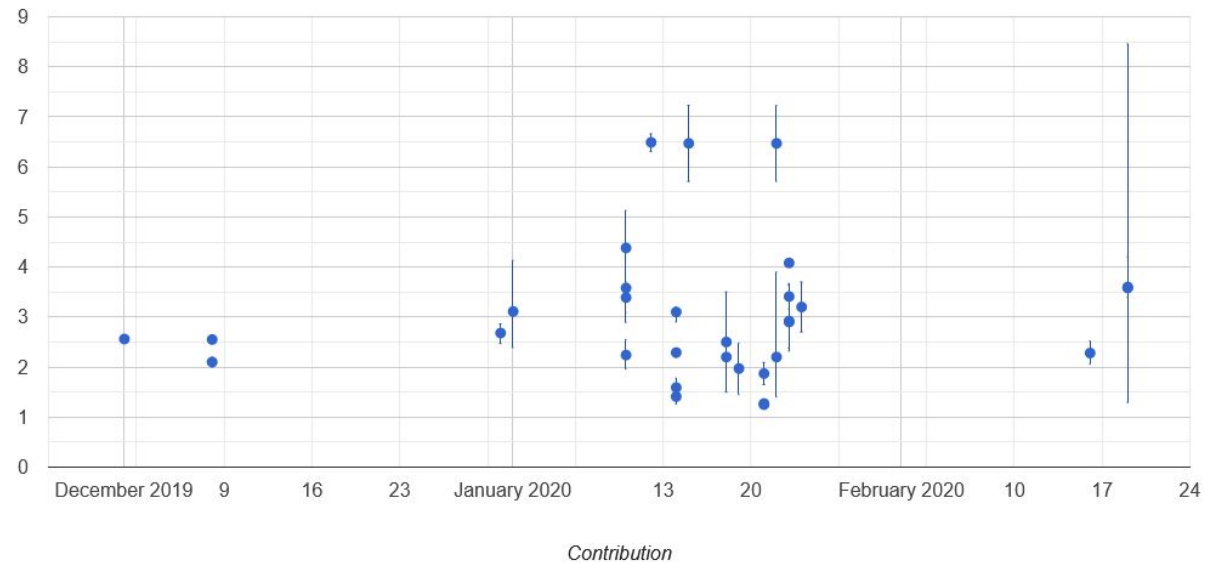


Interval 0

Lower confidence limit

Interval 1

Upper confidence limit



Previous

Publish



Launcher

/ covid_19 / R0 /

Name	Last Modified
img	9 minutes ago
R0-estimates-pl...	4 minutes ago
R0-estimates-se...	9 minutes ago

```
[ ]: import requests
import datetime
import pandas as pd
import numpy as np
from orkg import orkg
from bokeh.io import show
from bokeh.models import ColumnDataSource
from bokeh.plotting import figure

output_notebook()

[ ]: orkg = ORKG(host='localhost', port=8080)
df = orkg.get_data()

[ ]: dates = np.array([
    values = np.float64(0.95),
    lower = np.array([
    upper = np.array([

[ ]: hover1 = HoverTool(tooltips=[
    ('Date', '@date'),
    ('R0', '@R0'),
    ('95% CI', '@95% CI')
]),
formatters={
    '@date': '@date',
    '@value': '@value',
    '@lower': '@lower',
    '@upper': '@upper'
})

df = pd.DataFrame(df)
source = ColumnDataSource(df)
p = figure(x_axis_label='Average Basic Reproduction Number (Contagiousness)',
y_axis_label='Case Fatality Rate (Deadliness)',
xformatter='%.1f',
yformatter='%.1f%')
p.circle('date', 'R0', size=100, fill_color='black', fill_alpha=0.5)
p.add_layout(WhiskerTool(source))
show(p)

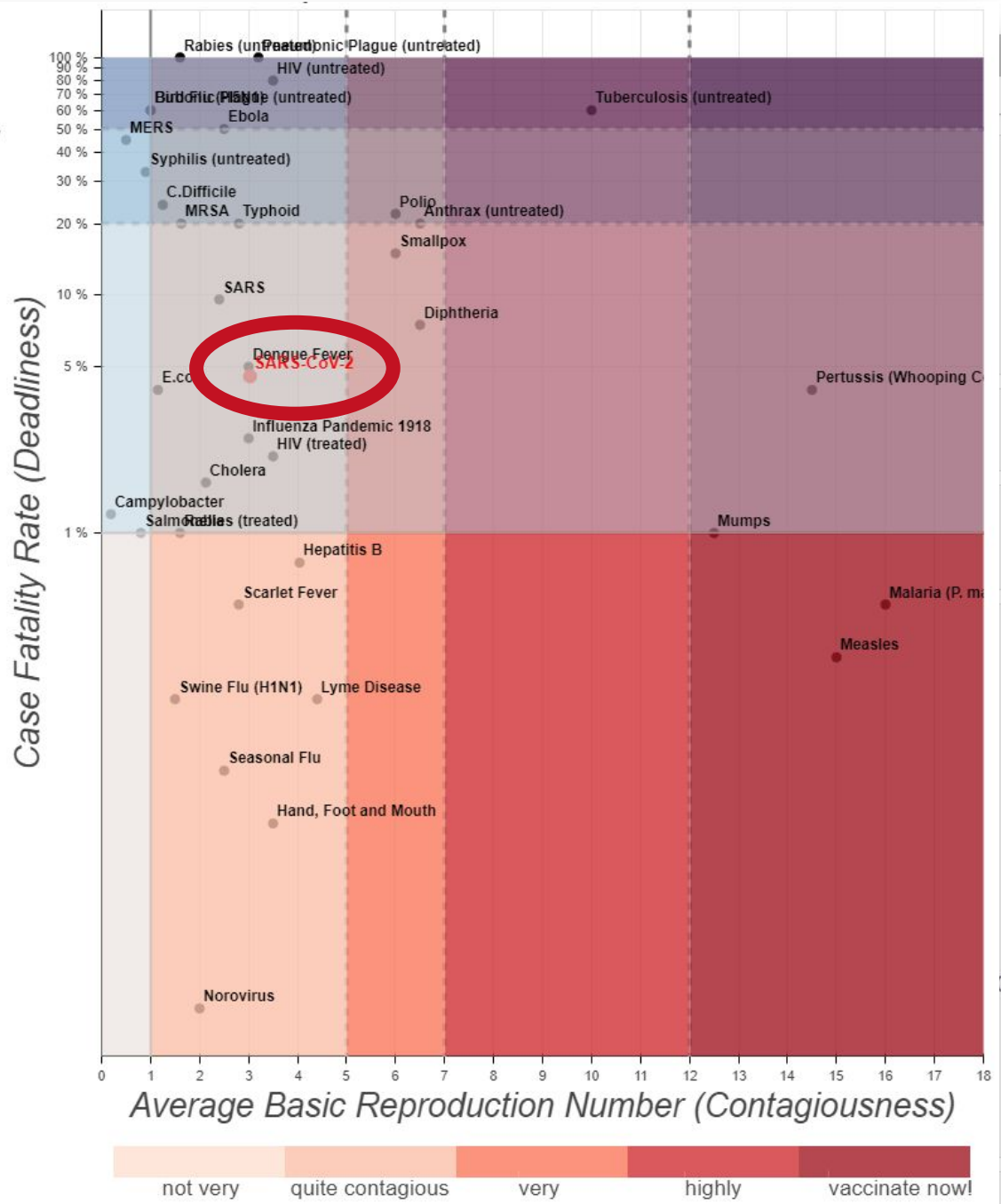
[ ]: export_png(p, filename='R0-estimates-pl...')
```

extremely deadly

deadly

quite deadly

not too deadly



Publish comparison ✕

A published comparison is made public to other users. The state of the comparison is saved and a persistent link is created.

Title ?

Description ?

Reference (optional) ?

 +

Research Field ?

 ▾

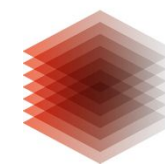
Creators ?

+ Add creator

Assign a DOI to the comparison ?

This comparison will be marked as new version of the comparison [R50014](#)

Publish



Template

Edit mode

Save

Description

Properties

Format

Name of template

Radiant energy input

 This template is strict (users cannot add additional properties themselves)

Class

Radiant energy input

Specify the class of this template. If not specified, a class is generated automatically.

Template use cases

These fields are optional, the property is used to link the contribution resource to the template instance. The research fields/problems are used to suggest this template in the relevant papers.

Property

Radiant energy input

Specify the property of this template. This property is used to link the contribution to the template instance.

Research fields

Chemistry ×

Specify the research fields that uses this template.

Research problems

TiO2 Photocatalysis ×

Specify the research problems that uses this template.

Templat



Template


Edit mode




Save




Description Properties Format


Property	Type
<div style="border: 1px solid #ccc; padding: 5px;"> <div style="display: flex; align-items: center;"> + Energy Device </div> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> Device x v 🗑️ 🔗 </div> <div style="margin-top: 5px;"> <p>Cardinality <input style="width: 100%;" type="text" value="Custom..."/></p> <p>Minimum Occurence <input style="width: 100%;" type="text" value="1"/></p> <p>Maximum Occurence <input style="width: 100%;" type="text" value="1"/></p> <p style="font-size: 0.8em;">Clear the input field if there is no restriction (unbounded)</p> </div> </div>
<div style="border: 1px solid #ccc; padding: 5px;"> <div style="display: flex; align-items: center;"> + Wavelength (λ) </div> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> Number x v 🗑️ 🔗 </div> <div style="margin-top: 5px;"> <p>Cardinality <input style="width: 100%;" type="text" value="Custom..."/></p> <p>Minimum Occurence <input style="width: 100%;" type="text" value="1"/></p> <p>Maximum Occurence <input style="width: 100%;" type="text" value="1"/></p> <p style="font-size: 0.8em;">Clear the input field if there is no restriction (unbounded)</p> <p>Minimum value <input style="width: 100%;" type="text" value="Specify the minimum value"/></p> <p>Maximum value <input style="width: 100%;" type="text" value="Specify the maximum value"/></p> </div> </div>


Contribution 1  





Use template 


 Covid-19 R0 Study  COVID-19 reproductive number  Time interval

 Basic reproduction number  Confidence interval (95%)  Student's t-test

 Research Problem

Covid-19 R0 Study Template 

Location	China 
Study date	wewewew  Cancel Create "Study date" must be a valid ISO 8601 date
Has method	rewrw  Cancel Create "Has method" with value "rewrw" fails to match the required pattern: /^[0-9]+\$/
R0 estimates (average)	7777  Cancel Create "R0 estimates (average)" must be less than or equal to 7.5

 Add property


 Add property



Image Classification | Research problem

Edit

Description
No description for this research problem yet!

Summary from Wikipedia

Contextual image classification, a topic of pattern recognition in computer vision, is a task on the relationship of the nearby pixels, which is also called neighbourhood. The goal is to

Image Classification | Research problem

Contributors



Top Authors

Hervé Jégou

22 papers

Hugo Touvron

22 papers

Alexandre Sablayrolles

17 papers

View more

Research fields

Research fields of papers that are addressing this problem

- Computer Sciences 90
- Information Science 1

Super-problems

Research problems that has this problem as *Sub Problem*.

No super research problems.

Benchmarks

CIFAR-10

Models: 24
Papers: 13
Code: 138

CIFAR-100

Models: 23
Papers: 11
Code: 123

ImageNet

Models: 57
Papers: 15
Code: 248

SVHN

Models: 3
Papers: 3
Code: 12

Fashion-MNIST

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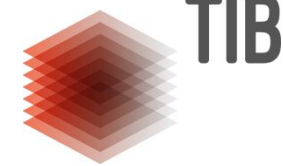


Image Classification | Research problem

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Description
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Contributors



Top Authors

Hervé Jégou

22 papers

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Domain Adaptive Transfer Learning on Visual Attention Aware Data

Paper

Ashiq Imran, Vassilis Athitsos | October 2020

Balanced Binary Neural Networks with Gated Residual

Paper

Mingzhu Shen, Xianglong Liu, Ruihao Gong, Kai Han | September 2019

Benchmark | Image Classification on ImageNet

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Dataset: ImageNet

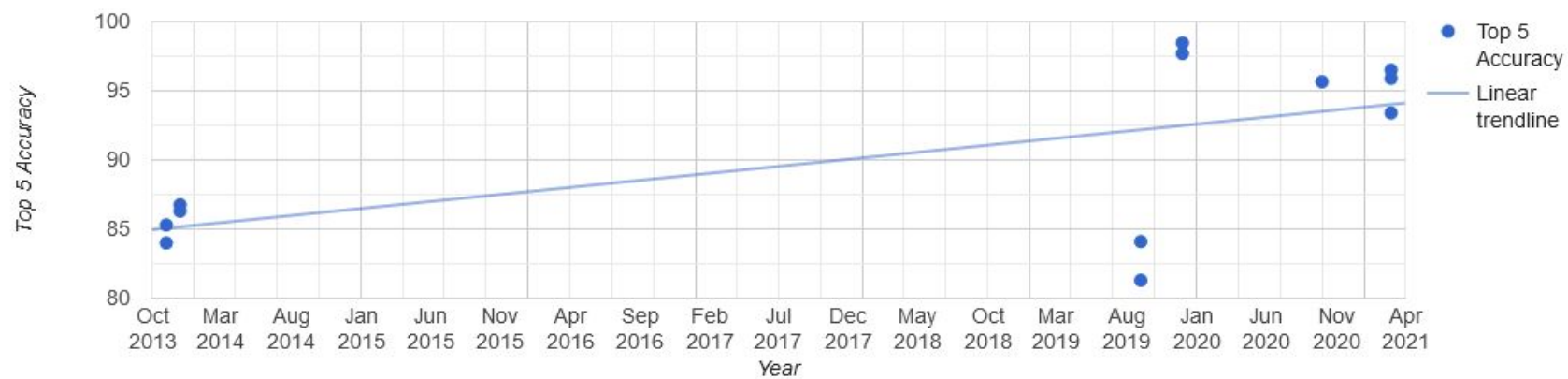
Performance trend

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Image Classification

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Observatory | Invasion Biology

Invasion biology, which is also known as Invasion ecology, is a subfield of biological and ecological research interested in organisms spreading outside their native distributional range. Research in invasion biology investigates the drivers of spread and invasion success as well as the ecological, evolutionary and socio-economic consequences of these introduced organisms, and how to manage them. This field of research overlaps with the fields of population biology, community ecology, evolutionary ecology, functional ecology and biogeography. This ORKG observatory is part of the Hi Knowledge initiative (<https://hi-knowledge.org>), and aims to keep track, organize and synthesize scientific contributions to the field of invasion biology. We are currently developing description of the research questions, hypotheses, results and other metadata relevant to publications in invasion biology. Publications issued from previous work* are already included to illustrate the type of meta-analyses which the ORKG database contains. (2018). Invasion biology: hypotheses and evidence. In *Invasion biology: hypotheses and evidence*. CAB International, Wallingford, UK, 741–750. doi:10.1017/9781108641111.006 as a hierarchy of hypotheses. *Oikos*, 123(6), 741–750.

Observatory | Invasion Biology

Research Problems

1. Testing the enemy release hypothesis in invasion biology
2. Testing the disturbance hypothesis in invasion biology
3. Testing the darwin's naturalisation hypothesis in invasion biology

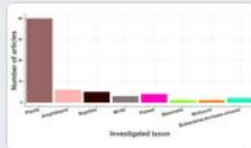
Organizations



Members

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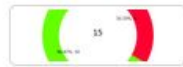
Comparisons

Invasion Biology- Enemy release hypothesis

248 Contributions 0 Visualizations 0 attachments 25-11-2020

Comparison of studies that are relevant to the Enemy release hypothesis. This hypothesis says: The absence of enemies in the exotic range is a cause of invasion success.

Ecology and Evolut...

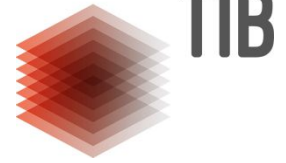


Invasion Biology- Biotic resistance hypothesis

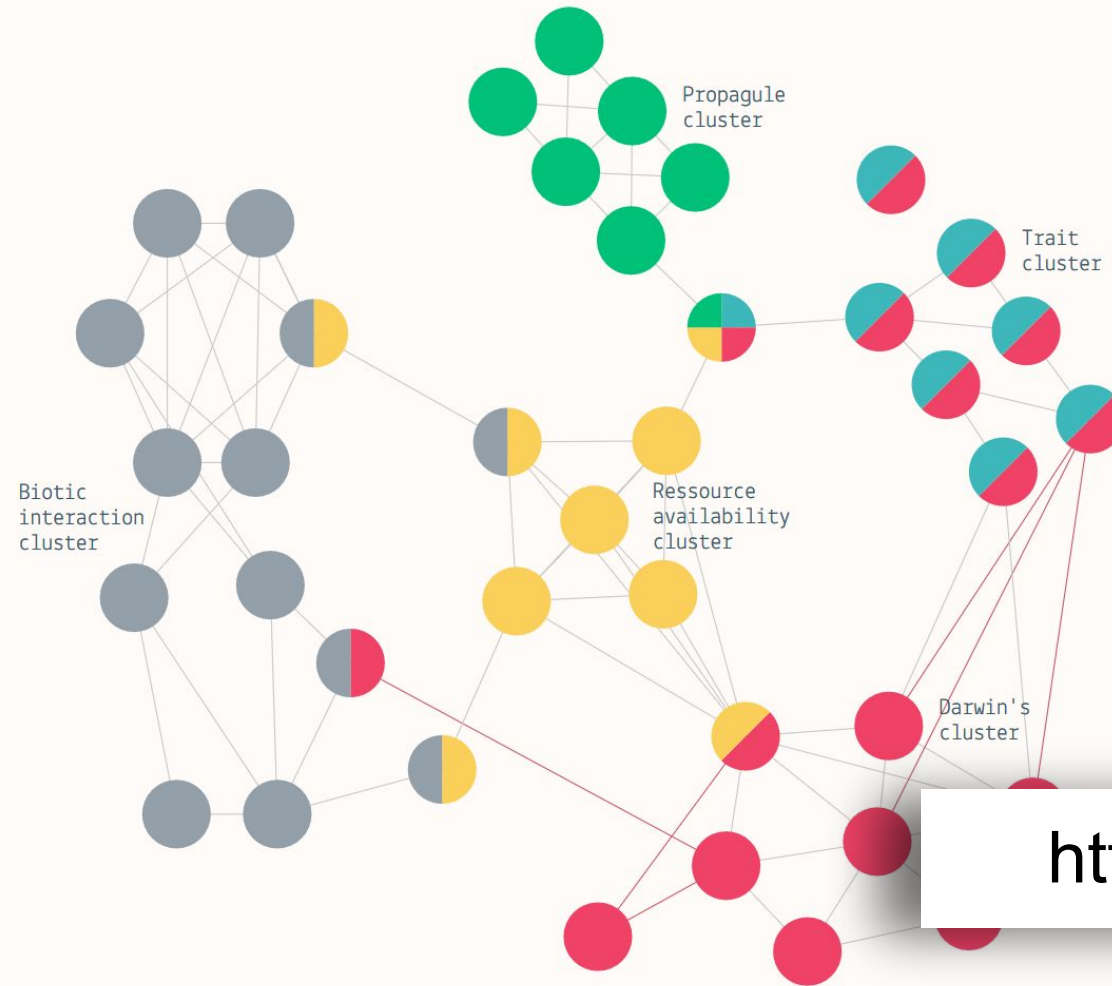
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Comparison of studies that are relevant to the biotic resistance hypothesis. This hypothesis says: An ecosystem with high biodiversity is more resistant against non-native species than an ecosyste...

Ecology and Evolut...



Interactive network showing clusters of invasion hypotheses. Node colors indicate membership of hypotheses to concept clusters. Similar hypotheses are connected with grey lines, whereas contradictory hypotheses are connected with red lines.



<https://hi-knowledge.org>

Relevant papers testing the biotic resistance hypothesis			Focal concept	Measure of native biodiversity	Measure of resistance/susceptibility	Taxonomic focus							
Author(s)	Year	Title	Journal	Supported/Undecided/Questioned	Number of native species/Other		Plants	Algae	Fungi	Crustaceans	Insects	Molluscs	Other invertebrates
Akatov, V; Akatova, V	2010	Saturation and invasion resistance of non-interactive plant communities	Russian Journal of Ecology, 41 (3): 2	Supported	Proxy	Abundance of exotic species	Many						
Allen, P; Meyer, S	2014	Community Structure Affects Annual Grass Weed Invasion During Restor	Invasive Plant Science, 7 (1): 1-13	Questioned	Number of native species	Biomass of exotic species							
Alofs, K; Fowler, N	2013	Loss of native herbaceous species due to woody plant encroachment fa	Ecology, 49 (3): 751-760	Supported	Number of native species	Number of exotic species	Many						
Alofs, K; Jackson, D	2015	The abiotic and biotic factors limiting establishment of predatory fishes at	Global Change Biology, 21 (6): 2227	Supported	Number of native species	Establishment success							
Anton, A; Simpson, N; Vu, I	2014	Environmental and biotic correlates to lionfish invasion success in Baham	Plos One, 9 (9)	Questioned	Number of native functional groups	Abundance of exotic species							
Arndt, E	2006	Niche occupation by invasive ground-dwelling predator species in Canari	BIOLOGICAL INVASIONS, 8 (4): 893	Questioned	Number of native species	Number of exotic species						7	
Arndt, E (Arndt, Erik); Perner,	2008	Invasion patterns of ground-dwelling arthropods in Canarian laurel forest	ACTA OECOLOGICA-INTERNATIONAL	Questioned	Number of native species	Number of exotic species				21 crustaceans,	21 crustaceans, inse	21 crustaceans, insect	
Arndt, E (Arndt, Erik); Perner,	2008	Invasion patterns of ground-dwelling arthropods in Canarian laurel forest	ACTA OECOLOGICA-INTERNATIONAL	Questioned	Proxy	Abundance of exotic species				21 crustaceans,	21 crustaceans, inse	21 crustaceans, insect	
Bart, D; Davenport, T; Carpen	2015	Stress and land-use legacies alter the relationship between invasive- and	Journal of Vegetation Science, 26 (1	Questioned	Number of native species	Number of exotic species	126						
Bartomeus, I; Sol, D; Pino, J; V	2012	Deconstructing the native-exotic richness relationship in plants	Global Ecology and Biogeography, 2	Questioned	Number of native species	Number of exotic species	Many						
Beisner, BE; Hovius, J; Haywo	2006	Environmental productivity and biodiversity effects on invertebrate comm	BIOLOGICAL INVASIONS, 8 (4): 655	Supported	Number of native species	Establishment success				1			
Beisner, BE; Hovius, J; Haywo	2006	Environmental productivity and biodiversity effects on invertebrate comm	BIOLOGICAL INVASIONS, 8 (4): 655	Supported	Number of native species	Abundance of exotic species				1			
Belote, RT (Belote, R. Travis);	2008	Diversity-invasibility across an experimental disturbance gradient in Appa	ECOLOGY, 89 (1): 183-192	Questioned	Number of native species	Number of exotic species	76						
Bennet, JA; Stotz, GC; Cahill, J	2014	Patterns of phylogenetic diversity are linked to invasion impacts, not invas	JOURNAL OF VEGETATION SCIENCE	Questioned	Proxy	Biomass of exotic species	146						
Bimova, K; Mandak, B; Kaspas	2004	How does <i>Reynoutria</i> invasion fit the various theories of invasibility?	JOURNAL OF VEGETATION SCIENCE	Questioned	Number of native species	Cover of exotic species	3						
Blackburn, TM; Duncan, RP	2001	Determinants of establishment success in introduced birds	NATURE, 414 (6860): 195-197	Questioned	Proxy	Establishment success							
Brewer, JS; Cralle, SP	2003	Phosphorus addition reduces invasion of a longleaf pine savanna (South	PLANT ECOLOGY, 167 (2): 237-245	Supported	Number of native species	Biomass of exotic species	1						
Britton-Simmons, KH (Britton-S	2006	Functional group diversity, resource preemption and the genesis of invas	OIKOS, 113 (3): 395-401	Supported	Number of native functional groups	Recruitment of exotic individuals		1					
Brown, R.L.; Peet, R.K.	2003	Diversity and invasibility of southern Apalachian plant communities	Ecology 84, 32-39	Undecided	Number of native species	Number of exotic species	~50						
Brown, RL; Fridley, JD	2003	Control of plant species diversity and community invasibility by species in	OIKOS, 102 (1): 15-24	Questioned	Number of native species	Cover of exotic species	16						
Bruno, JF; Kennedy, CW; Rana	2004	Landscape-scale patterns of biological invasions in shoreline plant comm	OIKOS, 107 (3): 531-540	Questioned	Number of native species	Number of exotic species	79						
Burger, JC; Patten, MA; Prenti	2001	Evidence for spider community resilience to invasion by non-native spider	BIOLOGICAL CONSERVATION, 98 (2)	Questioned	Number of native species	Abundance of exotic species						5	
Byun, B; de Blois, S; Brisson,	2013	Plant functional group identity and diversity determine biotic resistance to	Journal of Ecology, 101 (1): 128-139	Supported	Number of native functional groups	Growth of exotic species	36						
Byun, B; de Blois, S; Brisson,	2015	Interactions between abiotic constraint, propagule pressure, and biotic re	Oecologia, 78 (1): 285-296	Supported	Proxy	Abundance of exotic species	6						
Capers, RS (Capers, Robert S)	2007	Aquatic plant community invasibility and scale-dependent patterns in nativ	ECOLOGY, 88 (12): 3135-3143	Questioned	Number of native species	Number of exotic species	8						
Case, TJ	1991	INVASION RESISTANCE, SPECIES BUILDUP AND COMMUNITY COLLAPSE	BIOLOGICAL JOURNAL OF THE LINN	Supported	Number of native species	Establishment success							
Case, TJ	1996	Global patterns in the establishment and distribution of exotic birds	BIOLOGICAL CONSERVATION, 78 (1)	Supported	Number of native species	Number of exotic species							
Case, TJ	1996	Global patterns in the establishment and distribution of exotic birds	BIOLOGICAL CONSERVATION, 78 (1)	Questioned	Number of native species	Establishment success							
Cassey, P.; Blackburn, T.; Sol	2004	Global patterns of introduction effort and establishment success in birds	Proc. R. Soc. Lond. B 271, S405-S4	Questioned	Proxy	Establishment success							
Ceccherelli, G; Piazzoli, B; Balat	2002	Spread of introduced <i>Caulerpa</i> species in macroalgal habitats	JOURNAL OF EXPERIMENTAL MARIN	Questioned	Number of native functional groups	Abundance of exotic species		2					
Chen, H; Qian, H; Spyreas, G;	2010	Native-exotic species richness relationships across spatial scales and bi	Diversity and Distributions, 16 (5): 7	Undecided	Number of native species	Number of exotic species	404						
Chiron, F.; Shirley, S.; Kark, S	2009	Human-related processes drive the richness of exotic birds in Europe	Proc. R. Soc. B 276, 47-53	Questioned	Number of native species	Establishment success							
Chown, S.L.; Gremmen, N.J.M	1998	Ecological biogeography of southern oceanic islands: species-area relati	Am. Nat. 152, 562-575	Questioned	Number of native species	Number of exotic species					Many		
Chown, S.L.; Gremmen, N.J.M	1998	Ecological biogeography of southern oceanic islands: species-area relati	Am. Nat. 152, 562-576	Questioned	Number of native species	Number of exotic species							
Chown, S.L.; Gremmen, N.J.M	1998	Ecological biogeography of southern oceanic islands: species-area relati	Am. Nat. 152, 562-577	Questioned	Number of native species	Number of exotic species							
Cleland, EE; Smith, MD; Andeli	2004	Invasion in space and time: non-native species richness and relative abu	ECOLOGY LETTERS, 7 (10): 947-95	Questioned	Number of native species	Number of exotic species	18						
Cofer, MS (Cofer, M. Shea); V	2008	Species richness and exotic species invasion in middle Tennessee cedar	JOURNAL OF THE TORREY BOTANI	Questioned	Number of native species	Number of exotic species	44						
Collins, AR (Collins, A. R.); Jo	2007	Elton's hypothesis revisited: an experimental test using cogongrass	BIOLOGICAL INVASIONS, 9 (4): 433	Questioned	Number of native species	Spread of exotic species	1						
Cook, KL (Cook, K. L.); Garlar	2006	Effect of microbial species richness on community stability and communit	MICROBIAL ECOLOGY, 52 (4): 725-7	Supported	Number of native species	Establishment success							
Cully, A.C.; Cully, J.F.; Hiebert	2003	Invasion of exotic plant species in tallgrass prairie fragmentations	Conserv. Biol. 17, 990-998	Questioned	Number of native species	Number of exotic species	59						
Daehler, C.C.	2006	Invasibility of tropical islands by introduced plants: partitioning the influen	Preslia 78, 389-404	Questioned	Number of native species	Number of exotic species	1508						
Daneshgar, P (Daneshgar, Pe	2009	Role of species identity in plant invasions: experimental test using Imperal	BIOLOGICAL INVASIONS, 11 (6): 14	Questioned	Number of native species	Cover of exotic species	1						
Davies, K; Cavender-Bares, J	2011	Native communities determine the identity of exotic invaders even at scal	Diversity and Distributions, 17 (1): 3	Supported	Proxy	Proxy	156						
Davies, KF (Davies, Kendi F.)	2007	Productivity alters the scale dependence of the diversity-invasibility relati	ECOLOGY, 88 (8): 1940-1947	Questioned	Number of native species	Number of exotic species	79						
Davies, KF; Chesson, P; Harri	2005	Spatial heterogeneity explains the scale dependence of the native-exotic	ECOLOGY, 86 (6): 1602-1610	Undecided	Number of native species								
Dechoum, N; Castellani, T; Za	2015	Community structure, succession and invasibility in a seasonal deciduous	Biological Invasions, 17 (6): 1697-17	Undecided	Number of native functional gro								
Del Vecchio, S; Pizzo, L; Buff	2015	The response of plant community diversity to alien invasion: evidence fro	Biodiversity and Conservation 24 (2)	Supported	Number of native species								
Diez, JM (Diez, Jeffrey M.); Si	2008	Darwin's naturalization conundrum: dissecting taxonomic patterns of spe	ECOLOGY LETTERS, 11 (7): 674-68	Undecided	Number of native species								
Dillon, RJ; Vennard, CT; Buckl	2005	Diversity of locust gut bacteria protects against pathogen invasion	ECOLOGY LETTERS, 8 (12): 1291-12	Supported	Number of native species								
Dimitrakopoulos, PG; Galanidi	2005	Short-term invasibility patterns in burnt and unburnt experimental Mediterr	OEOLOGIA, 143 (3): 428-437	Supported	Number of native species								
Dukes, JS	2001	Biodiversity and invasibility in grassland microcosms	OEOLOGIA, 126 (4): 563-568	Questioned	Number of native species	Biomass of exotic species	1						
Dyderski, M; Gdula, A; Jagod;	2015	"The rich get richer" concept in riparian woody species - A case study o	Urban Forestry & Urban Greening, 1	Questioned	Number of native species	Number of exotic species	116						
Dzialowski, AR (Dzialowski, A	2007	Food web structure provides biotic resistance against plankton invasion i	BIOLOGICAL INVASIONS, 9 (3): 257	Supported	Number of native species	Establishment success				1			
Eisenhauer, N (Eisenhauer, N	2008	Invasibility of experimental grassland communities: the role of earthworm	OIKOS, 117 (7): 1026-1036	Supported	Number of native functional groups	Cover of exotic species	9						
Emer, C; Fonseca, C	2011	Araucaria Forest conservation: mechanisms providing resistance to invasi	Biological Invasions, 13 (1): 189-202	Supported	Proxy	Survival of exotic individuals	Many						

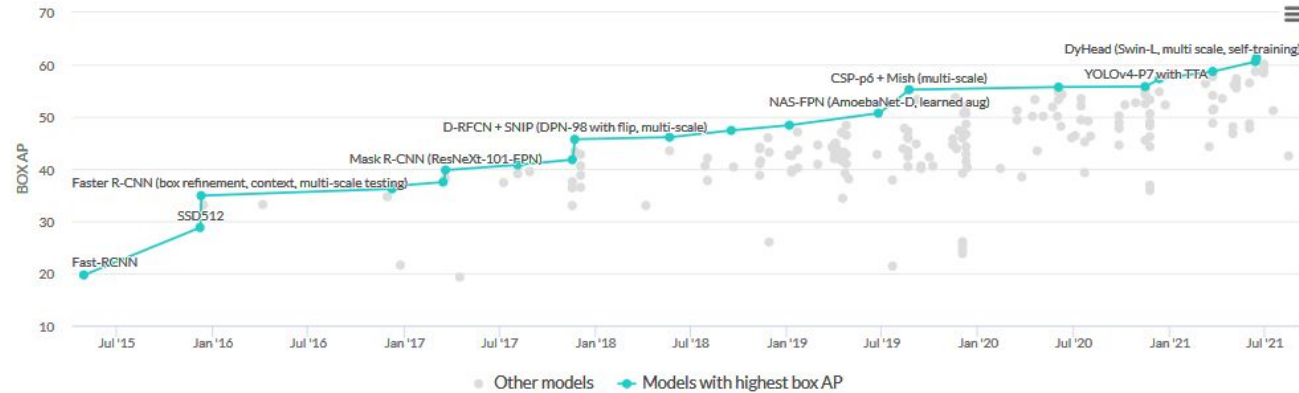
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Object Detection on COCO test-dev

Leaderboard

Dataset

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Hardware Burden Operations per network pass Edit Leaderboard

Rank	Model	box AP	AP50	AP75	APs	APM	APL	Extra Training Data	Paper	Code	Result	Year	Tags
1	Soft Teacher + Swin-L (HTC++, multi-scale)	61.3						✓	End-to-End Semi-Supervised Object Detection with Soft Teacher			2021	multiscale Swin-Transformer
2	(Swin-L, multi scale, self-training)	60.6	78.5	66.6	64.0	74.2	✓	Dynamic Head: Unifying Object Detection Heads with Attentions			2021	multiscale Swin-Transformer	

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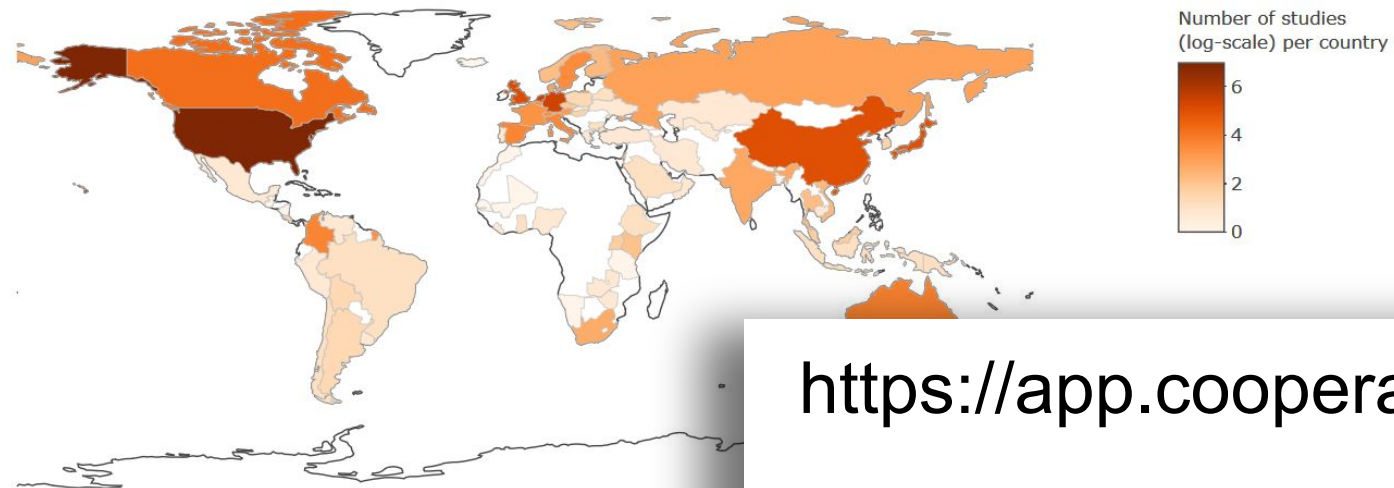
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Take aways

- Wiss. Wissen kann so repräsentiert werden, dass es maschinenlesbarer ist
- Fördert die Nachnutzung, für Maschinen und Menschen
- Einige Disziplinen und jedes Review-Team machen das für definierte Zwecke und Anwendungen
- Die Praxis hat sich insg. aber noch nicht durchgesetzt
- Die Vision und Prototypen in die Praxis umzusetzen ist nicht trivial
- Bedarf deutliches Umdenken und Neuverdrahtung der Ansätze und Infrastrukturen