Community-led Al systems for scholarly communication

The Open Knowledge Maps approach

Peter Kraker Co-created with Maxi Schramm

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1) There is too much information

2) We are stuck in ever smaller silos

3) The rate of breakthrough discoveries is declining

4) New output types like datasets and software are largely hidden

5) Communities in disadvantaged regions and those communicating in languages other than English are left behind

Image: Sara Gironi Carnevale American Association for the Advancement of Science®





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Articles

About 210.000 results (0,03 sec)

Any time

Since 2020 Since 2019 Since 2016 Custom range...

Sort by relevance

Sort by date

✓ include patents
 ✓ include citations

Create alert

COVID-19: consider cytokine storm syndromes and immunosuppression

P Mehta, DF McAuley, M Brown, E Sanchez... - The Lancet, 2020 - thelancet.com As of March 12, 2020, coronavirus disease 2019 (**COVID-19**) has been con firmed in 125 048 people worldwide, carrying a mortality of approximately 3 · 7%, 1 compared with a mortality rate of less than 1% from influenza. There is an urgent need for effective treatment ... ☆ ワワ Cited by 586 All 6 versions

Presumed asymptomatic carrier transmission of COVID-19

Y Bai, L Yao, T Wei, <u>F Tian</u>, DY Jin, L Chen, <u>M Wang</u> - Jama, 2020 - jamanetwork.com Methods| In January 2020, we enrolled a familial cluster of 5 patients with fever and respiratory symptoms who were admitted to the Fifth People's Hospital of Anyang, Anyang, China, and 1 asymptomatic family member. This study was approved by the local ... ☆ 59 Cited by 693 All 5 versions

COVID-19 and Italy: what next?

A Remuzzi, G Remuzzi - The Lancet, 2020 - Elsevier

The spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has already taken on pandemic proportions, affecting over 100 countries in a matter of weeks. A global response to prepare health systems worldwide is imperative. Although containment ...

☆ ワワ Cited by 476 All 35 versions

An interactive web-based dashboard to track COVID-19 in real time

<u>E Dong</u>, <u>H Du</u>, <u>L Gardner</u> - The Lancet infectious diseases, 2020 - thelancet.com In December, 2019, a local outbreak of pneumonia of initially unknown cause was detected in Wuhan (Hubei, China), and was quickly determined to be caused by a novel coronavirus, 1 namely severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The outbreak ...

☆ 99 Cited by 572 All 7 versions







Open Knowledge Maps

is a charitable non-profit organization

dedicated to dramatically **improving the visibility of scientific knowledge**

for science and society alike



Overview of heart diseases





https://openknowledgemaps.org

Advantages



How it works



A Knowledge Map presents you with a **topical overview** for your search query. It is **based on the most relevant documents** matching your query. The relevancy is determined by the data source (e.g. BASE or PubMed).



We operate an **artificial intelligence (AI) pipeline** to create the knowledge maps. The pipeline combines natural language processing methods to aggregate and display publications according to similarity in topics.

Rapid user growth



4+ million knowledge maps
150,000+ monthly users
220+ countries and territories
9 minutes avg. visit duration
80% engagement rate
60% returning users

OKMaps in a nutshell



- Search in 400M+ outputs from 11K+ sources
- Includes 25 output types in 400+ languages
- Start from a single keyword or a complex query
 - Works with even the scarcest of (meta-)data
- Best-in-class user interface
- Seamless third-party integration
- Open & participatory

All of our services are free & open \heartsuit



Our offering includes:

- Innovative search and discovery services
- ✓ Integrations for BASE, PubMed, and OpenAIRE
- Institutional integration via Custom Services
- ✓ A wide range of training activities and materials
- ✓ Our award-winning visualization software
- Community support & engagement programs



Select projects



TRIPLE - The multilingual discovery platform for the social sciences and humanities **EU Horizon 2020**



enKORE - Towards an open, zoomable atlas for
invasion science and beyond
VolkswagenStiftung: Offen - für Außergewöhnliches



VisConnect - Discovering Interdisciplinary Researchers with AI-Powered Visualisations

IT:U - Interdisciplinary Transformation University Austria

Supporting members











HARVARD Library

Participatory approach



This means:

- Open licences for content (CC BY), data (CC0), and source code (MIT)
- ✓ Co-creation of platform with our community
- Community involvement in governance
- Equitable balancing of stakeholder needs
- Community-based engagement & funding
- Easy integration in community infrastructure



Custom Services in a nutshell



Integrate Al-driven discovery in your own offering

Embed Open Knowledge Maps services in your own discovery systems based on your own data sources



- Provide attractive, visual entry points to your holdings
- Available as easy-to-install cloud components

Example: GoTriple integration



Ibn Haldun University; https://doaj.org/article/57acb7736a964588bc211169f2193a79



Complement existing discovery systems such as a library catalog

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Example: TU Wien Bibliothek integration

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Satish Gajawada, Lord Rama (doi): https://dx.doi.org/10.5281/zenodo.8431019

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Area: Artificial intelligence ethics, Trustworthy and ethical artificial intelligence, Algorithmic B.,

This book is authored under the guidance of Lord Rama (GOD). This book "Lord Rama Artificial Intelligence" is a collection of five different chapters. First chapter shows "Lord Rama Devotees Algorithm" which comes under Devotees-Inspired Metaheuristic...

af open access book journalmewspaper article

Lord Rama Artificial Intelligence (2023)

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Chatbot, Medical ethics

Library catalogue integrations

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Swiss Consortium for Open Knowledge Maps

- Partnership with the Consortium of Swiss
 Academic Libraries (CSAL) and the Swiss Library
 Service Platform (SLSP) 10 organisations in total
- Brings Al-driven visual discovery to researchers and research institutions across Switzerland
- Improves OKMaps' technical platform and financial sustainability as an open infrastructure
- Great showcase for Open Knowledge Maps integrations on a national scale

Complement existing discovery systems such as a library catalog

Make the contents of a specific collection more

visible (e.g. a research data management system)

Find research datasets at AUSSDA - The Austrian Social Science Data Archive

You are here: > AUSSDA - The Au	strian Social Science Data Archive > Abo	out AUSSDA + Projects + Open Knowledge Map	a + OK Maps AUSSDA		
Here you can search the AUS	SDA database. To expand your sear	rch, you can use the Europe-wide search.			
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Knowledge Map of labour

95 documents Data source: AUSSDA... Until 25 Aug 2023 Document types All lang Data quality () More information

~	Overview (95 documents)	`
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Microcensus Ad-Hoc-Module 'Transition from work to retirement' 2012 (SUF edition) (2022-02-17)

Statistics Austria

Population group

[doi]: https://doi.org/10.11587/5ZCVJY

Full edition for scientific use. In addition to the core variables of the Microcensus Labour Force Survey (LFS), the LFS also has so-called ad-hoc-modules (AHM) that can vary from year to year. The EU-LFS ad-hoc-module 2012 on Transition from...

↓ Export

Area: Education, Family size, Housing conditions

Microcensus Labour Force Survey / Housing Survey 2022 (SUF edition) (2022-06-30)

Statistics Austria

Population group

[doi]: https://doi.org/10.11587/XSWWSL

Full edition for scientific use. With about 20,000 households surveyed per quarter, the Microcensus is the largest regularly conducted sample survey in Austria. It is an important data source for national and international labour market indicators.

↓ Export

Area: Unemployment, Demography, Economics

Use cases

Complement existing discovery systems such as a library catalog

Make the contents of a specific collection more visible (e.g. a research data management system)

Integrate visual overviews **in other areas of your digital services**, such as a news page or a current research information system (CRIS)

Example: UNIL integration

UNIL | Université de Lausanne

F.G. Herrera, M. Irving, L.E. Kandalaft, G. Coukos The Lancet Oncology vol. 20, no. 8, no. e417-e433

A cycle of continuous innovation

USSDA

WIKIDATA

Traditional metrics are increasingly seen as **poor indicators of an individual's research quality**

Current movements for research assessment reform, such as DORA and CoARA **advocate for a holistic appraisal of researchers**

Schmidt, R. (2022). Building Blocks for Impact. Zenodo. <u>https://doi.org/10.</u> 5281/zenodo.7249187

Collaborations, mentoring, and demonstrations of eminence that allow scholars to shape the direction of fields demonstrate increasing scales of impact. Scale of influence Scaled magnitude resulting in significant

individuals who tend to bear heavier

expectations and loads for mentoring.

Two dimensions to illustrate "impact"

Broadening the definition of scholarly "impact" against two dimensions—the scale of contributions' influence and new types of audiences—can help institutions recognize and reward a wider variety of academic achievements and outcomes.

broadens access and rewards a mindset of

collaboration over competition.

Traditional metrics are increasingly seen as **poor indicators of an individual's research quality**

Current movements for research assessment reform, such as DORA and CoARA **advocate for a holistic appraisal of researchers**

However, implementing a broader, more inclusive assessment approach can be **challenging and time-consuming**

Framework: DORA building blocks

- 1. Interdisciplinary research output
- 2. Teaching & mentorship
- 3. Open science Focus of VisConnect
- 4. Academic collaborations
- 5. Leadership roles
- 6. Societal engagement
- 7. Collaboration beyond academia
- 8. Policy advisory roles
- 9. Real world impact

Schmidt, R. (2022). Building Blocks for Impact. Zenodo. https://doi.org/10.5281/zenodo.7249187

Sketches

~	Overview (115 open access works)			
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journal/newspaper article

Discoverability in (a) Crisis (2021-02-01)

Peter Kraker, Maxi Schramm, Christopher Kittel, Sarah K. Fercer ABI Technik

[doi]: https://doi.org/10.1515/abitech-2021-0003

Abstract not available

215 citations 2600 social media mentions 9 references outside academia Keywords: not available

Document type(s): journal/newspaper article

Area: Knowledge management

Figshare Public Metadata until 02/12/2019 (2020)

Peter Kraker, Sarah K. Fercer [doi]: https://doi.org/10.6084/m9.figshare.1320834

Abstract not available

Learning analytics

150 citations 2056 social media mentions 10 references outside academia Keywords: not available

Document type(s): journal/newspaper article

Area: Learning analytics

Recommender systems

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Area: Knowledge management

This visualization was created by Open Knowledge Maps on 18 Jun 2024 at 12:20. For more information read our FAQs.

Thank you for your attention!

Contact

Open Knowledge Maps Dr. Peter Kraker Founder & Chairman <u>pkraker@openknowledgemaps.org</u>

Our future vision

Interactive maps like Google Maps are used for much more than traditional maps and GPS devices

In essence, they are **visual discovery engines** for the physical world

Now imagine a system where you can discover knowledge in very much the same way

