



Innovation in der akademischen Suche

Die Kollaboration von BASE und Open Knowledge Maps

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OPEN
KNOWLEDGE
MAPS

The 2014-2016 **Ebola epidemic** in West Africa claimed more than 11,000 lives

It could have been prevented using public knowledge

Opinion

OP-ED CONTRIBUTORS

Yes, We Were Warned About Ebola

By Bernice Dahn, Vera Mussah and Cameron Nutt

April 7, 2015

“The results seem to indicate that Liberia has to be included in the Ebola virus endemic zone.”

Knobloch et al. **1982**

There is an adage in public health: **“The road to inaction is paved with research papers.”**



SARA GIRONI CARNEVALE

Scientists are drowning in COVID-19 papers. Can new tools keep them afloat?

Dark Knowledge

(Jeschke et al.)



There is a discoverability crisis
that negatively impacts effectiveness & efficiency
of science, and its transfer to practice.

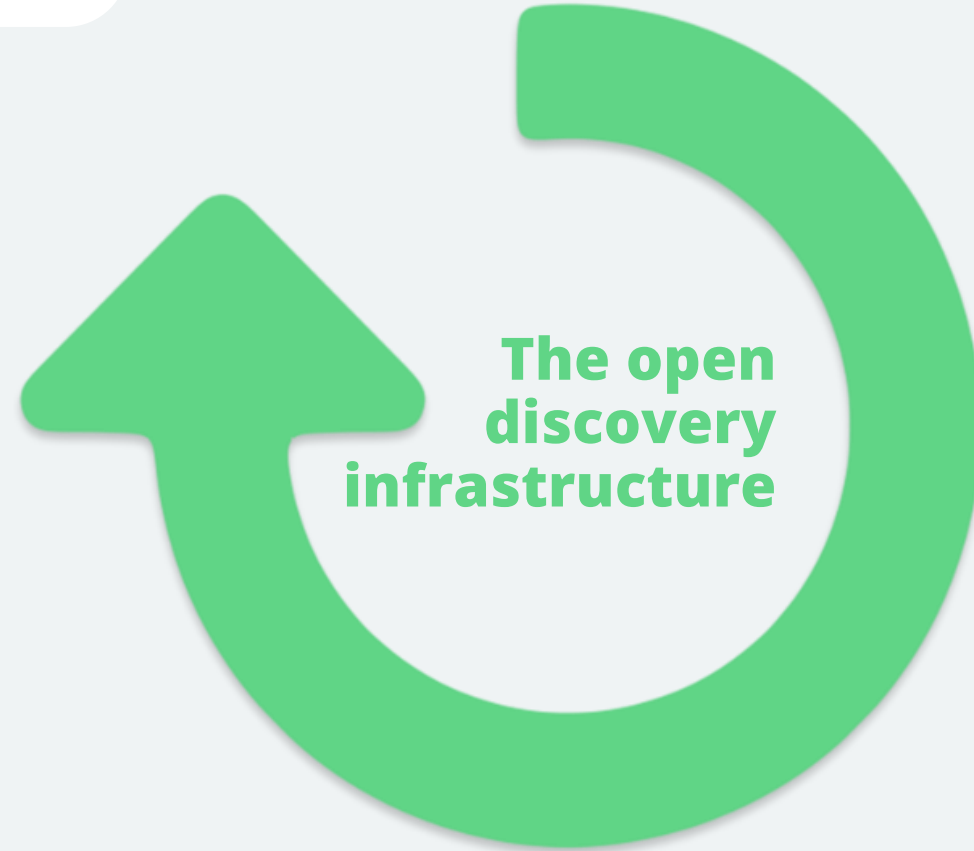
The cycle of continuous innovation



Institutions, Researchers,
Publishers



Libraries,
Archives,
Repositories,
Aggregators



The open
discovery
infrastructure

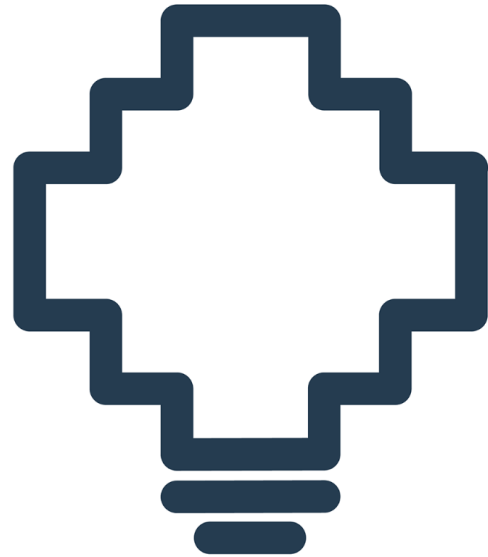
Value added
services



Meta aggregators



Identify relevant concepts

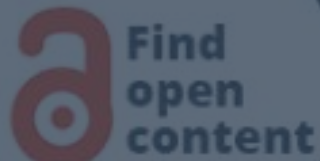


OPEN
KNOWLEDGE MAPS

Irrelevant to your research



@OK_Maps



Who we are

Open Knowledge Maps

is **a charitable non-profit organization**

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

for science and society alike



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MAPS

Overview of heart diseases



Map a research topic beta

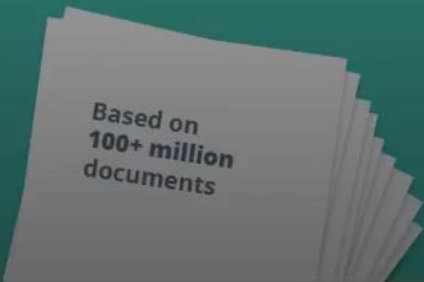
Get an overview - Find papers - Identify relevant concepts

- PubMed (life sciences)
- BASE (all disciplines)

Refine your search ▾

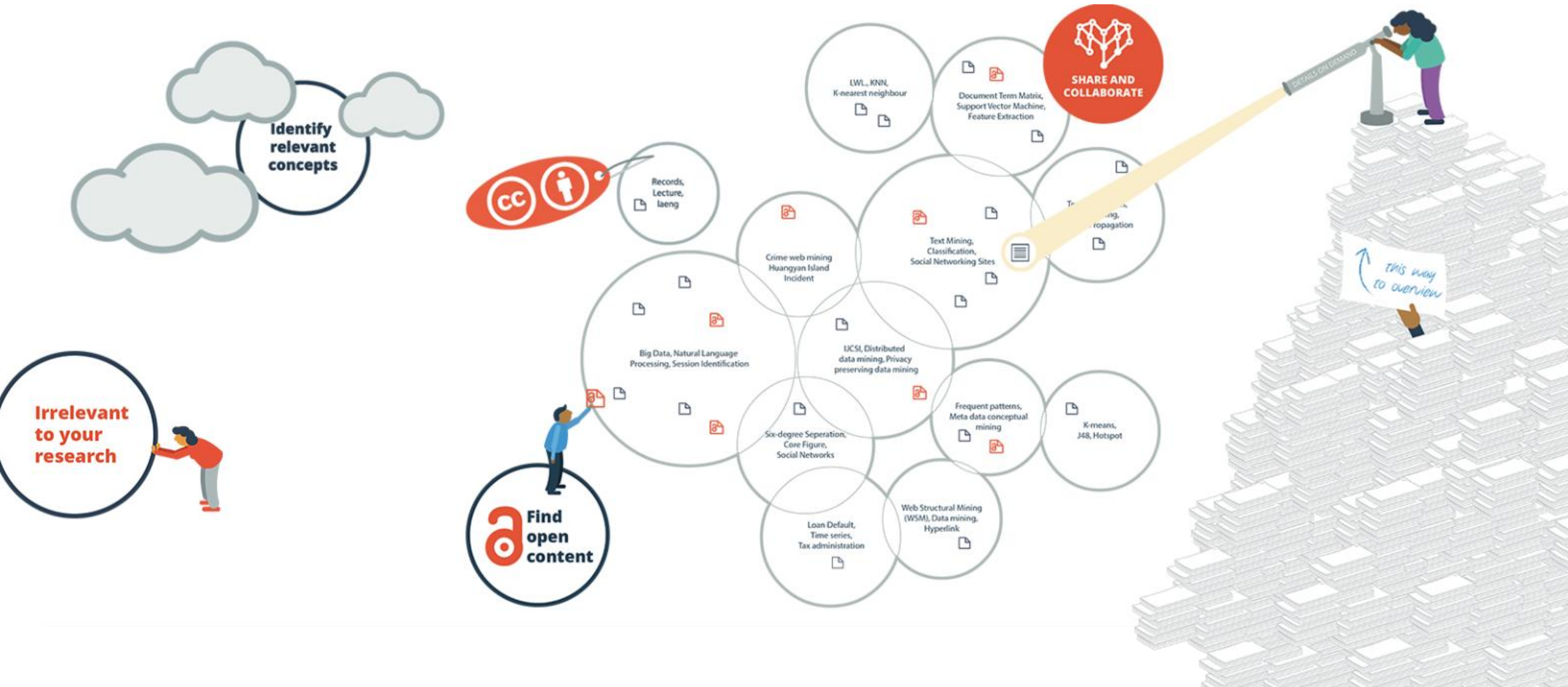
Try out: [sugar](#) [digital education](#)

What is Open Knowledge Maps?



<https://openknowledgemaps.org>

Advantages



How it works

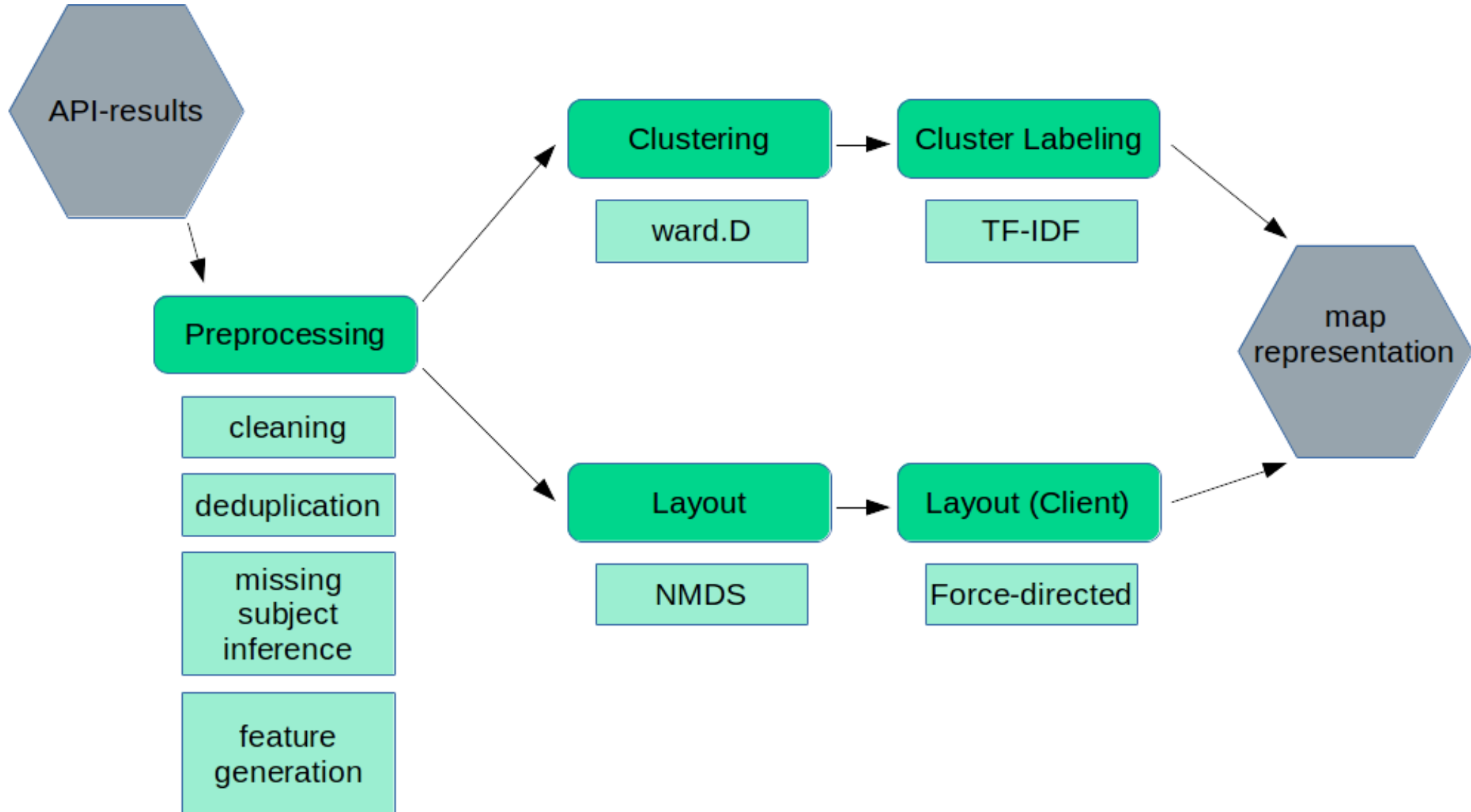


An Open Knowledge Maps visualization presents you with a **topical overview** for your search term. It is **based on the 100 most relevant documents** from either **BASE** or **PubMed** for your search term.

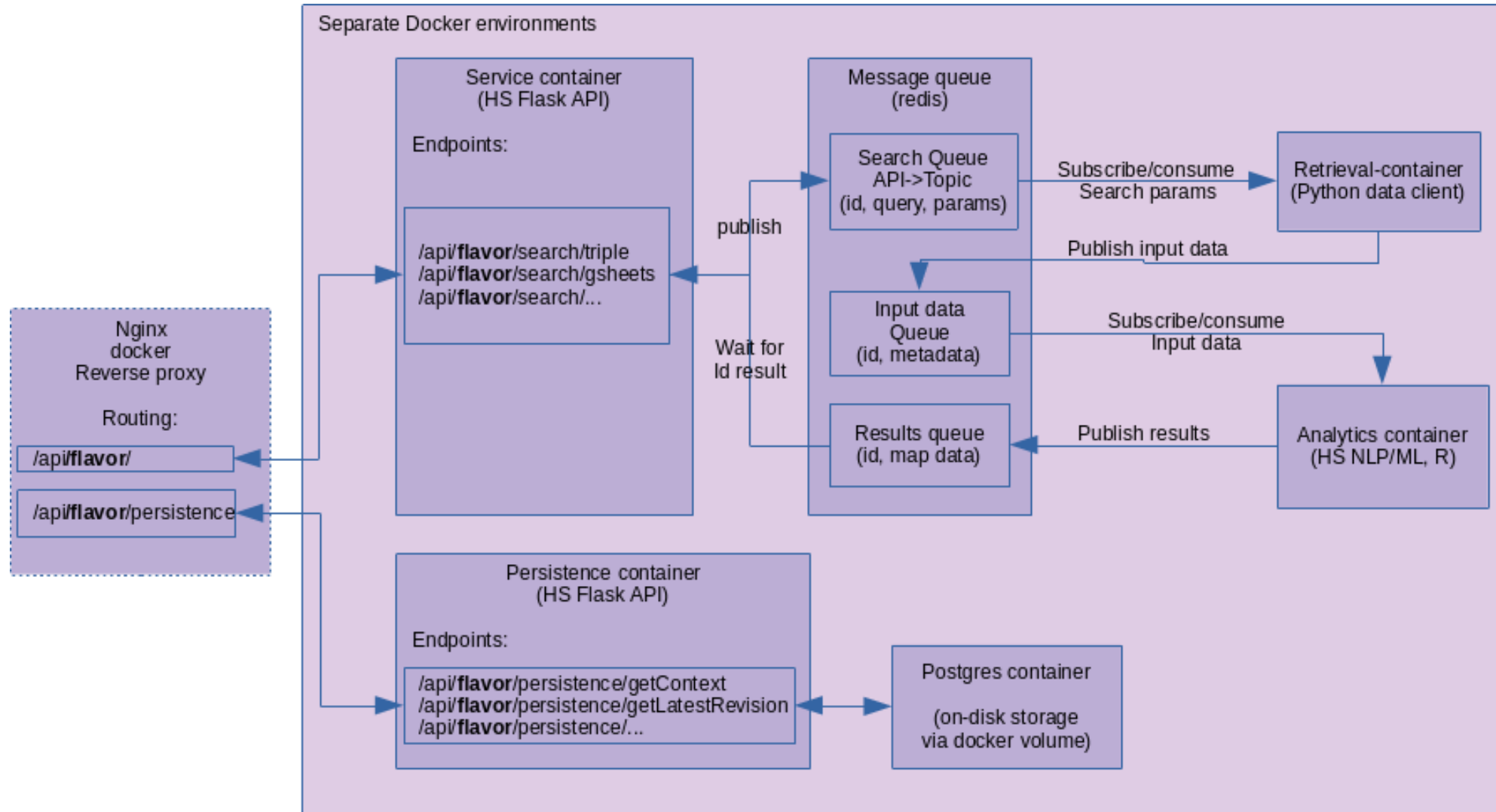


We use **text similarity** to create the knowledge maps. The algorithm groups those papers together that have more words in common in the metadata.

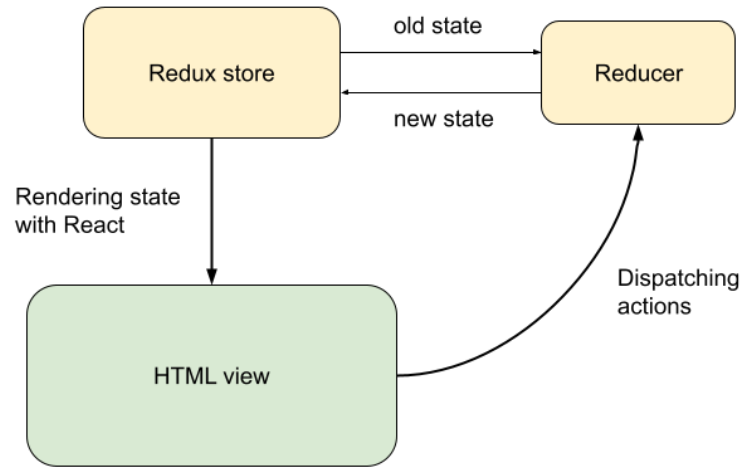
Machine learning pipeline



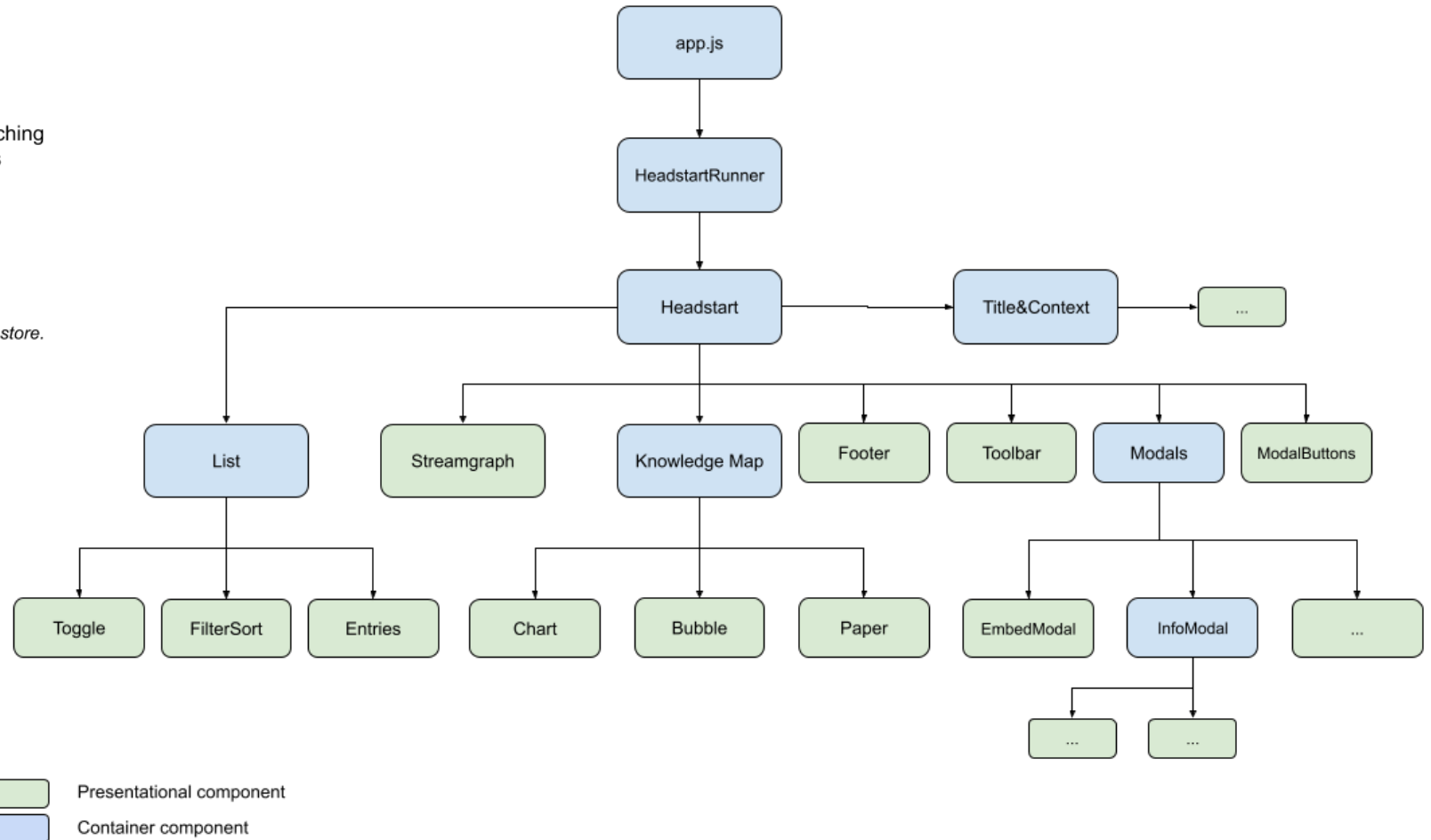
Backend infrastructure



Frontend infrastructure



The whole application is rendered based on the state stored in the Redux store.



Cognitive aspects

Cognitive load

Restricting the number of elements in each view

Change blindness

Animations only when necessary, providing ample context for orientation

Recognition

Using well-known metaphors, real-world representations



Brain by Thomas Kopp from
the thenounproject.com,
CC BY 4.0

Largest visual search engine for research

By end of October 2022:
1.2+ million knowledge maps
100,000+ monthly visits
5000+ participants in workshops



nature

trend.

W ÖSTERREICHISCHER PREIS
FÜR FREIES WISSEN.

futurezone

oet open science logo

Open Science

Open Science

AIMS

OPEN MINDS [The Austrian Open Source Award]

reddit

ct

OPEN CON

re:publica THE CONFERENCE. THE EVENT.

mozilla Festival

Hacker News

wikicite

ScienceGeist Everything about research

ZBW MEDIALINK

Storybench RESEARCH VISUALIZATION AND KNOWLEDGE MANAGEMENT
FOR RESEARCHERS AND THE BROAD COMMUNITY

All of our services are free & open



Our offering includes:

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



Partners



Furizon



Find your way to Horizon



Advisors



Peter Murray-Rust



Stefanie Lindstaedt



Natalia Manola



Klaus Tochtermann



Jean-Claude Burgelman



Bertil F. Dorch



Katja Mayer



Claudia Garád



Birgit Schmidt



Elena Giglia



Najmeh Shaghaei



Björn Brembs



Daniel Mietchen



Andreas Ferus



Dasapta Erwin Irawan



Elisabeth Lex



Isabella Peters



Osman Aldirdiri



Tony Ross-Hellauer



Asura Enkhbayar



Stefan Kasberger



Stefanie Haustein



Michael E. Karpeles



Christine Zhang



Sebastian Dennerlein



Antica Culina



Christian Kaier

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



CoVis – A curated, collaborative & visual knowledge
base for COVID-19 research
EOSC Secretariat COVID-19 Fast-Track Funding



Supporting members



Participatory approach



This means:

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

Reasons for choosing BASE

One of the **largest academic search engines**

Harvests **20+ output types**

Inclusive inclusion criteria for new data sources

Great API with a wide variety of parameters for fine-grained adjustments

Exceptional collaboration from the start

22 March 2017

New: Visualize a research topic based on 100 million scientific documents

We are happy to announce that Open Knowledge Maps is now connected to one of the largest academic search engines in the world: BASE.

For the first time you are able to visualize a research topic in any discipline. In addition, you can now search within different types of resources, including datasets and software. We would like to thank the [BASE team](#) for their outstanding support in making this happen!

We have also spent a lot of time improving the naming of the sub-areas to make the concepts in a field more visible - which means that this update improves our existing PubMed integration too.

As always, we welcome any feedback you may have!

Try it out now!



Map a research topic



Get an overview - Find documents - Identify relevant concepts

PubMed (life sciences)

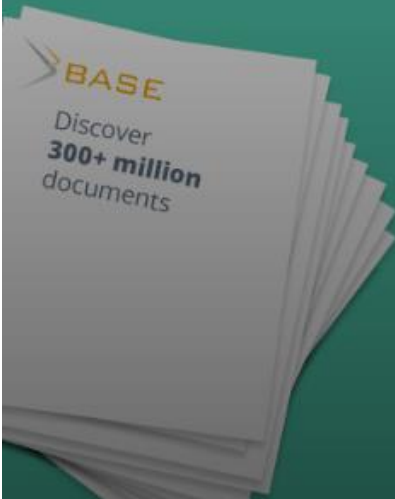
BASE (all disciplines)

Refine your search ▾

Enter your search term

GO

Try out: [digital education](#) [climate change](#) **AND** [impact](#)



Drowning in the literature? These smart software tools can help

Search engines that highlight key papers are keeping scientists up to date.

Google Scholar does not disclose the size of its database, but it is widely acknowledged to be the biggest corpus in existence, with close to 400 million articles by one estimate ([M. Gusenbauer *Scientometrics* 118, 177–214; 2019](#)). Open Knowledge Maps, meanwhile, is built on top of the open-source Bielefeld Academic Search Engine, which boasts more than 270 million documents, including preprints, and is curated to remove spam.

Research Europe, 26 May 2022

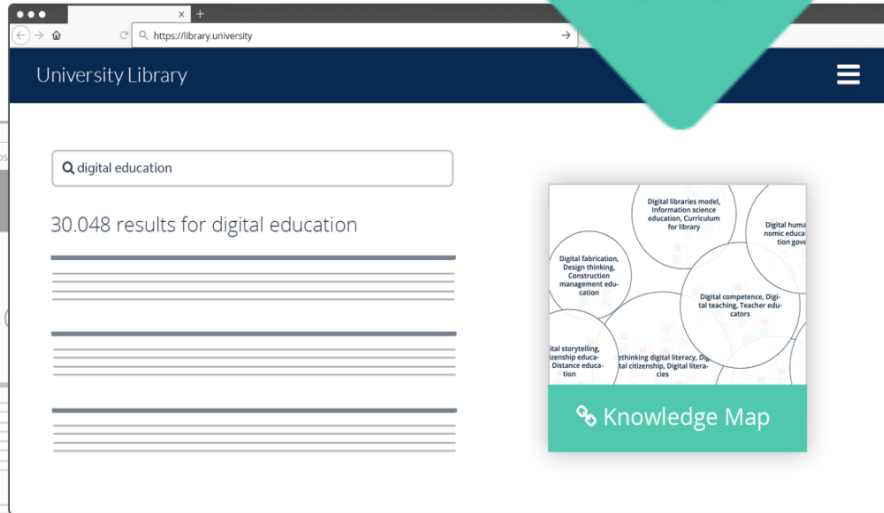
There are alternatives: academic-led initiatives such as the search engine BASE, the discovery tool Open Knowledge Maps, the Crossref agency that administers Digital Object Identifiers and many community-driven repositories serving particular places or disciplines.



Custom Services



Custom Services in a nutshell



Enable 3rd parties to embed Open Knowledge Maps services in their own discovery systems

- ✓ Co-created with our supporting members and community
- ✓ Integrators can set individual parameters, including the ability to restrict knowledge maps to their own data sources
- ✓ Available as easy-to-install cloud components

Example: GoTriple integration

The image displays the GoTriple website interface. At the top, the GoTriple logo is on the left, and navigation links for Home, Trust Building System, Crowdfunding, Disciplines, and About TRIPLE are in the center. Search and Log In buttons are on the right. Below the header, the search results for 'psychology' are shown, with 44,853 results. The interface includes filters for Documents (43,898), Projects (888), and People (67). A 'Your Search' section shows the query 'psychology' and a list of 43,898 documents. A 'Filter Documents' section is also visible. The main content area shows a list view of a document titled 'Converging toward a common speech code: perceptuo-motor recalibration processes in production' by Sato, Marc, Grabski, Krystyna, Garnier, Maëva, and 3 other authors, dated 2013-07-11. The document abstract discusses international audience auditory and somatosensory systems. A 'Knowledge Map' button is highlighted with a yellow circle and a mouse cursor. To the right, a 'Streamgraph' button is also visible. Below the main content, a detailed view of the 'Knowledge Map of psychology' is shown, featuring a network of interconnected nodes representing various psychological concepts and disciplines. The nodes include: 'Ciências sociais, Human sciences, Sciences sociales', 'Psychology students, Sport psychology, Doświadczenie', 'History of social psychology, Psicologia social, Psicologia social (feedback)', 'Environmental psychology, Cognitive ergonomics, Environmental quality—psychological...', 'Motivation (psychology), Http://semantics.gr/authorities/ssh-icsh/sh/motivação, Motivacija', 'Daily life events, Epistemologia, Epistemology', 'Principio di individuazione, Http://semantics.gr/authorities/ssh-icsh/sh/individuazione, Http://semantics.gr/authorities/ssh-icsh/sh/individuo', 'Islamic psychology, Http://semantics.gr/authorities/ssh-icsh/sh/psihologija, Clinical psychology', 'Moral philosophy, Moral psychology, Political psychology', 'Education of children, Human resource development, Activity approach', 'Assunto (filosofia), Bibliometric analysis...', 'Cross-cultural psychology, Ethnic groups—psychology, Etnopsicologia', and 'Culturalhistorical psychology, Affect, Http://semantics.gr/authorities/ssh-icsh/sh/évvoia'. The map is titled 'Knowledge Map of psychology' and indicates 100 most relevant documents. On the right side of the detailed view, a list of documents is shown, including 'The reality, His figures, his stories; La réalité. Ses figures, ses récits (2021-06-23)' by Florence Escoffier and 'Aristotelian-Thomistic Teleological Behavioral Psychology Reconstruction (2018-06-01)' by William McVey. The interface also includes search and log in buttons at the top of the detailed view.

GoTriple beta online at: <https://gotriple.eu>

Technical setup



**OPEN
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MAPS**



University Library

Q digital education

30.048 results for digital education

Knowledge Map

The screenshot shows a search interface with a search bar containing 'digital education' and a list of results. A 'Knowledge Map' button is visible at the bottom right of the results area.

University Blog

Explore our recent research on digital education

January 21

share

The screenshot shows a blog post titled 'Explore our recent research on digital education' dated January 21. It features a 'share' button and a thumbnail image of a knowledge map.



Aggregators

BASE

OpenAIRE

The Aggregators section features the logos for BASE and OpenAIRE.



**Institutions/
platforms**

ETH zürich | ETH-Bibliothek enKORE

TU Bibliothek WIEN Your knowledge hub

GoTriple BETA

The Institutions/platforms section lists logos for ETH zürich, ETH-Bibliothek, enKORE, TU Bibliothek WIEN, and GoTriple BETA.

Example: Université de Lausanne

The screenshot shows the UNIL website header with the logo and navigation links: UNIL, L'Actu, L'Agenda, Campus pratique, MyUNIL, Facultés, Centres, and Recherche. Below the header is a blue navigation bar with links: UNIL en bref, Formations, Recherche, Campus, Organisation, Informations pour. The main content area features a breadcrumb trail: Vous êtes ici: UNIL > Recherche > Thématiques transversales > Société > Sport. A sidebar on the left lists various thematic areas like Cultures, Economie, Environnement, Santé, and Société, with 'Sport' selected. The main content area has a 'Sport' heading, a sub-heading '| L'UNIL au cœur de la pratique et de la performance sportive | Regards croisés sur le sport |', and a sub-heading 'Poursuivez les entretiens: le sport et... | Le sport dans nos archives'. There is a large image of a swimmer and a yellow callout bubble pointing to the 'OPEN KNOWLEDGE MAPS' logo.

The screenshot shows the Open Knowledge Maps interface. The title is 'Knowledge Map of sport or (sport and equality) or (sport and corruption)'. It displays 100 documents from a data source of 'Univer...' until 5 Oct 2022. The map consists of several interconnected nodes, each containing text related to sports and health. A yellow callout bubble highlights the 'OPEN KNOWLEDGE MAPS' logo. The interface includes a search bar, navigation links (About, Team, Community, Projects, News, FAQs, Get in touch, Become a supporting member), and a list of documents on the right side.

OPEN KNOWLEDGE MAPS
A visual interface to the world's scientific knowledge

Knowledge Map of **sport or (sport and equality) or (sport and corruption)**
100 documents Data source: Univer... Until 5 Oct 2022 Document types: Data quality More information

Sport players, Hypoxia/metabolism, Running/physiology

Outdoor sports, Prospective study, Sport and exercise

Adolescent behavior, Health status, Adolescent adult Drinking behavior female *health Humans life style male questionnaires...

Annual patterns, Hypoxic marquees, Sport injuries

Doping in sports, Gas chromatography-mass spectrometry, Anabolic steroids

Physical activity, Adolescent child competitive behavior disabled persons Humans mental health *physical education and training physical fitness *sports, Ergogenic aids

Clean sport, Olympic accountability

Organizations, Sport sci...

Overview (100 documents)

Search within visualization... show: Any sort by: Relevance

open access journal/newspaper article

Beyond governance : the need to improve the regulation of international sport (2017-11-29)
Jean-Loup Chappelet
Sport in Society, pp. 1-17
[link]: https://serval.unil.ch/notice/serval:BIB_64FBBDE83CAE

Governance has been a prominent word in international sport circles since the beginning of the twenty-first century. However, better governance will not cure all the ills of this wide-ranging sector and its numerous governing bodies, many of which, including the International Olympic...

PDF Cite as Export

Area: International sport federations, Sport governance, Autonomy international

journal/newspaper article

Towards better Olympic accountability (2011)
J.-L. Chappelet
Sport in Society, vol. 14, no. 3, pp. 319-331
[link]: https://serval.unil.ch/notice/serval:BIB_B2B64F151A9B

Ten years after the corruption scandal that shook the International Olympic Committee (IOC) in 1999, this article presents the current situation regarding accountability for this non-governmental organization based in Switzerland. The IOC is responsible for ensuring that the...

Cite as Export

Online at:

<https://unil.ch/central/home/menuinst/recherche/thematiques-transversales/societe/sport.html>



Thank you for your attention!

Contact:

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facebook.com/OKMaps

pkraiker@openknowledgemaps.org



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