



Politechnika
Wroclawska

Searching for scientific knowledge

Łukasz Sadowski

lukasz.sadowski@pwr.edu.pl

Wroclaw University of Science and Technology

Faculty of Civil Engineering

Department of Materials Engineering and Construction Processes

***Where do you actually search
for knowledge today?***

***/everyone will say 1 source
(max 10 sec/person)/***

Knowledge sources

- **Scientific publications:**
 - Journals from the JCR (Journal Citation Report) list with the Impact Factor,
 - Other journals,
 - Books or chapters in books.
- **Conference presentations,**
- **Reports, doctoral dissertations, master's theses,**
- **Pages of scientists, research projects,**
- **Patents,**
- **R&D company websites,**
- **Websites of worlds leading publishers (e.g. Nature, Science),**
- **Training, schools for PhD students.**

***Which of these sources are
reliable for a PhD thesis?
/2-minute discussion in pairs/***

What makes a paper „scientific”?

Scientific publication

Definition of a scientific publication:

„An article in a scientific journal or book that meets specific, strict validity criteria, describing original research and its conclusions, or gathering conclusions from previously published work in a review. Scientific publications are usually the scientific primary source”

Source: https://pl.wikipedia.org/wiki/Publikacja_naukowa

Searching for scientific publications

Scientific profiles:

- <http://scholar.google.pl/>,
- <https://www.researchgate.net>.

Scopus:

- <https://www.scopus.com>,

Databases of publishers of scientific journals (e.g. Elsevier, Springer):

- <http://www.sciencedirect.com/>,
- <http://www.link.springer.com/>,

Databases available after logging in from the website of the Wrocław University of Science and Technology library:

- <http://biblioteka.pwr.edu.pl/e-zasoby/bazy-danych>,
- Remote access: <http://biblioteka.pwr.edu.pl/e-zasoby/zdalny-dostep-proxy>.


Searching for scientific publications

An example based on: <http://www.sciencedirect.com/>:

ScienceDirect books

Keyword: „concrete” Author name: „Sadowski”

Search for peer-reviewed journal articles and book chapters (including open access content)

Keywords Author name Journal/book title Volume Issue Page  Advanced search

66 results

 Set search alert

Article type 

Publication title

Refine by:

Years

2021 (4)

2020 (9)

2019 (7)

Review articles (1)

Research articles (60)

Encyclopedia (3)

Book chapters (1)

Construction and Building Materials (11)

Composite Structures (5)

Archives of Civil and Mechanical Engineering (4)

Searching for scientific publications

An example based on: <http://www.sciencedirect.com/>:

Research article

New paradigm in the metrology of concrete surface morphology: Methods, parameters and applications

Measurement, 28 September 2020, ...

Łukasz Sadowski, Jerzy Hoła, ... Thomas G. Mathia

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Measurement

Volume 169, February 2021, 108497



New paradigm in the metrology of concrete surface morphology: Methods, parameters and applications ☆

Łukasz Sadowski ^a  , Jerzy Hoła ^a  , Lech Czarnecki ^b  , Thomas G. Mathia ^c  

Recommended articles

Performance of swarm intelligence bas...
Measurement, Volume 169, 2021, Article 108...

 Purchase PDF View details ▾

Electrical analogy approach to estimate ...
Measurement, Volume 169, 2021, Article 108...

 Purchase PDF View details ▾

A novel coordinated detection method f...
Measurement, Volume 169, 2021, Article 108...

Exercise 1:

- Chooses a topic for their doctoral dissertation,
- Enters two keywords.

***Now improve your
keywords?***

***What is the biggest
challenge when searching
papers?***

Patent search

Google patents:

- <https://patents.google.com/>,

Database of the Patent Office of the Republic of Poland:

- <https://ewyszukiwarka.pue.uprp.gov.pl/>,

Database of the European Patent Office:

- <https://www.epo.org/searching-for-patents.html>,

International databases:

- <https://worldwide.espacenet.com/>,
- <https://www.wipo.int/patentscope/en/>,
- <https://depatisnet.dpma.de/>,
- <http://patft.uspto.gov/>,
- <https://register.epo.org/regviewer>.

Patent search

An example based on: <https://www.epo.org/searching-for-patents.html>:

Kryteria wyszukiwania

Wpisz frazę - min. 3 znaki Uwzględnij polskie znaki **SZUKAJ**

WYSZUKIWARKA ZAAWANSOWANA

Wyszukaj w typach:
Znaki Towarowe, Wynalazki, Patenty Europejskie, Dodatkowe Prawa Ochronne, Wzory Użytkowe, Wzory Przemysłowe, Topografia Układów Scalonych
oraz w kolekcjach:
BUP, WUP, E-rejestr, Opisy patentowe, Skróty opisów patentowych, Opisy wzorów użytkowych, Opisy wzorów przemysłowych, Tłumaczenia patentów europejskich z uwzględnieniem polskich znaków

▼ Rodzaje PWP x

- Znaki Towarowe
- Wynalazki
- Patenty Europejskie
- Dodatkowe Prawa Ochronne
- Wzory Użytkowe
- Wzory Przemysłowe

Keyword: „beton”

Number of patents (155)

LISTA WYSZUKANYCH REKORDÓW

Wszystkie PWP (749)				
Znaki Towarowe (386)	Wynalazki (155)	Wzory Użytkowe (101)	Patenty Europejskie (96)	Wzory Przemysłowe (11)
Wszystkie kolekcje (10201)				
Opisy patentowe (3959)	E-rejestr (3857)	Tłumaczenia patentów europejskich (1224)	Skróty opisów patentowych (519)	
Opisy wzorów użytkowych (331)	Opisy wzorów przemysłowych (202)	WUP (82)	BUP (27)	

Exercise 2:

3 groups. Each group:

- is given a topic (e.g., concrete, AI, materials)
- is asked to find 1 patent After 5 minutes each group reports:
 - What did you found?
 - Does it make scientific sense?

***Why should a scientist care
about trends?***

Search trends analysis

How to find out what Internet users from around the world are looking for?:

- <https://trends.google.com>

Dowiedz się, czego
szukają internauci
z całego świata

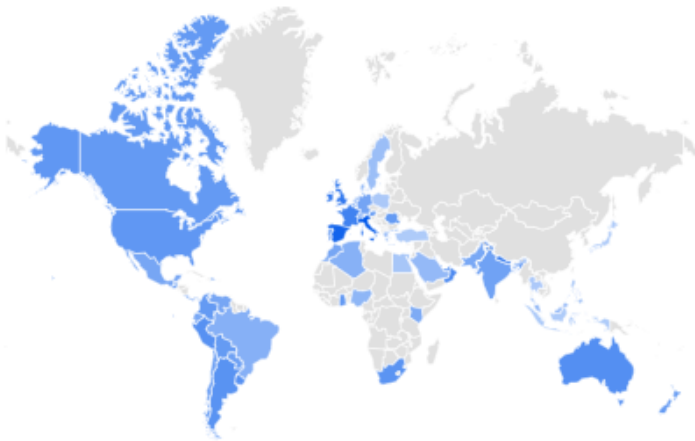
coronavirus



Search trends analysis

How to find out what Internet users from around the world are looking for?:

- <https://trends.google.com>



1	Włochy	100	<div style="width: 100%;"></div>
2	Hiszpania	90	<div style="width: 90%;"></div>
3	Katar	85	<div style="width: 85%;"></div>
4	Wielka Brytania	72	<div style="width: 72%;"></div>
5	Nepal	71	<div style="width: 71%;"></div>

Search trends analysis

How to find out what Internet users from around the world are looking for?:

- <https://trends.google.com>

 Zobacz tematy, które zyskały popularność w 2021 roku – **cały świat** ↕

Searches	News	Actors
1 Australia vs India	1 Afghanistan	1 Alec Baldwin
2 India vs England	2 AMC Stock	2 Pete Davidson
3 IPL	3 COVID Vaccine	3 Aryan Khan
4 NBA	4 Dogecoin	4 Gina Carano
5 Euro 2021	5 GME Stock	5 Armie Hammer

Exercise 3:

Each student enters 2–3 keywords related to their topic in Google Trends (<https://trends.google.com>)

Answer 3 questions:

- Is interest growing or declining?
- Which countries are you interested in?
- Are there related queries you didn't expect?

/Mini-discussion in pairs (3 min)/

Mini-task for the next class and final report:

1. Characterize your research using 4 keywords and list the 10 most cited articles in your field found in Scopus.
2. Provide the addresses of 3 researchers' websites in your field.
3. List 3 doctoral dissertations in your field.
4. List 3 patents in your field.