



# When Libraries meet Linked Data

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Kiel / Hamburg, Germany

**ECONBIZ**

*Author Profiles*

**InnCamp2020**

**ZBW**

Leibniz-Informationszentrum  
Wirtschaft  
Leibniz Information Centre  
for Economics

# What scholars want

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...as response to a query

- a list of bibliographical records!?
- information about authors
- information outside libraries
- social media content
- ...

# MARC

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**...entire control over data creation and management**

centralized environment

NON [[shareable](#)/ [re-usable](#)]

“MARC format leaves libraries in danger of [not being adequately prepared](#) to meet the *needs of modern users* in the information environments they currently frequent.” (Gonzales, 2014)

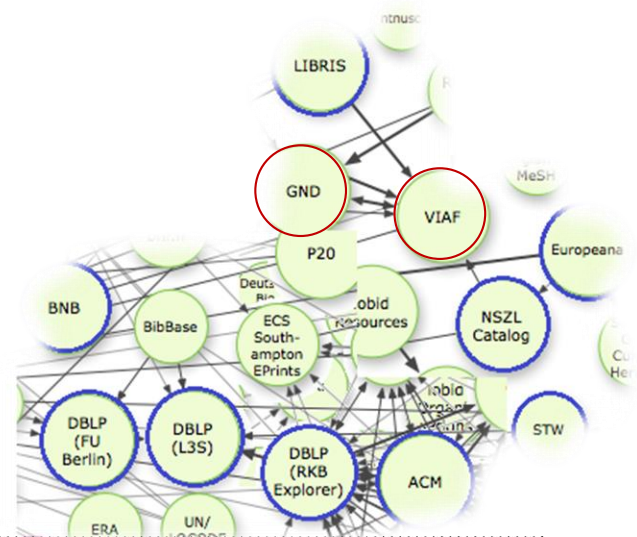
# Interlinking authority records

The deployment of Linked Data principles and Semantic Web technologies increases

- **visibility**,
- **interoperability** and
- **accessibility** of the data.

Distributed environment / heterogeneous data sources

create the data once → **link** → re-use many times



# Libraries accepting LD

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Library Entity management frameworks / [future of bibliographic description](#)

linked data creation environment to create metadata in a linked data environment

- BIBFRAME (initiated by LoC)
- SINOPIA (from LD4P2)
- FOLIO
- WIKIBASE (WIKIDATA)



# Wikidata

...free and open knowledge base that can be  
read and edited by humans and machines

community driven – collaborative approach

can express a high degree of granularity

e.g.,

Paul Milgrom → award received → Prize in Economic Sciences  
in Memory of Alfred Nobel

Q1359990 → P166 → Q47170

Paul Milgrom (Q1359990)

economist and winner of the Nobel Prize in Economics  
Paul R. Milgrom | Paul Robert Milgrom

In more languages

Configure

Language	Label	Description	Also known as
English	Paul Milgrom	economist and winner of the Nobel Prize in Economics	Paul R. Milgrom Paul Robert Milgrom
German	Paul Milgrom	US-amerikanischer Ökonom	Paul Robert Milgrom Paul R. Milgrom
French	Paul Milgrom	économiste américain	
Bavarian	No label defined	No description defined	

All entered languages

Statements

instance of

human

2 references

edit

+ add value

part of


Stanford University Economics Department

1 reference

edit

+ add value

image

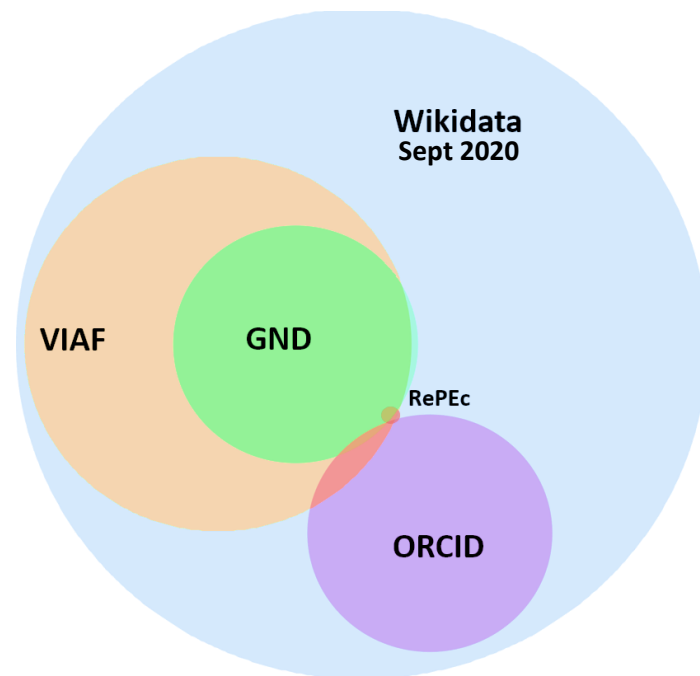


edit

# Wikidata – linking HUB

has the potential to be an important part of the LD environment for **authorities**

	Sept 2020
WIKIDATA(human,Q5)	8.162.753
VIAF (P214)	2.558.168
GND (P227)	1.023.323
ORCID (P496)	1.602.716
RePEc (P2428)	6.942
VIAF+GND	1.011.227
GND+RePEc	6.165
GND+ORCID	1.0037



# Publishing LD

## LOD is getting more and more popular

- German National Library (DNB), Swedish National Library (LIBRIS),
- British National Bibliography (BNB),
- Europeana Digital Library,
- Library of Congress (LC),
- Leibniz Information Centre for Economics (ZBW),
- Food and Agriculture Organization of the United Nations (FAO),
- DBLP Bibliography Database, etc.
- DBpedia (extracts factual information from Wikipedia)
- VIAF
- WIKIDATA
- ...

SPARQL Endpoints, Dump files, or LD services  
Authority or Bibliographic data

### EntityFacts (GND)

```
"@type" : "person",
"variantName" : [ "Johann Wolfgang Goethe",
"dateOfBirth" : "28. August 1749",
"dateOfDeath" : "22. März 1832",
"placeOfBirth" : [ {
  "@id" : "http://d-nb.info/gnd/4018118-2",
  "preferredName" : "Frankfurt am Main"
} ],
"placeOfDeath" : [ {
  "@id" : "http://d-nb.info/gnd/4065105-8",
  "preferredName" : "Weimar"
} ],
"placeOfActivity" : [ {
  "@id" : "http://d-nb.info/gnd/4065105-8",
  "preferredName" : "Weimar"
} ],
"professionOrOccupation" : [ {
  "@id" : "http://d-nb.info/gnd/4053309-8",
  "preferredName" : "Schriftsteller"
}, {
```

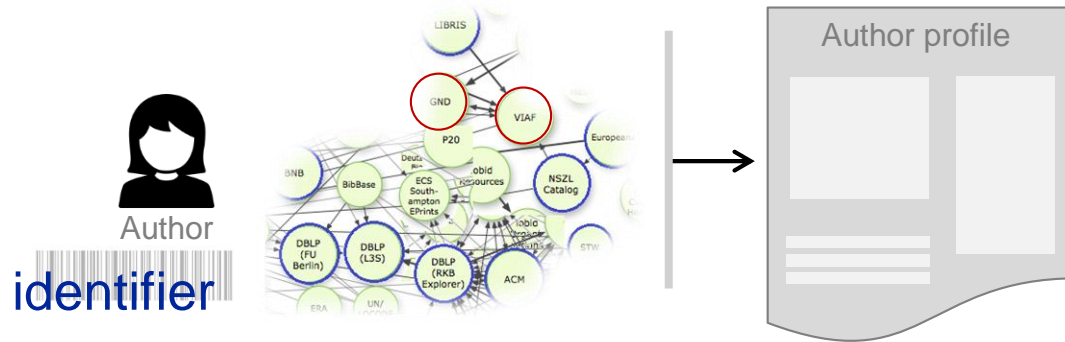
<https://www.dnb.de/entityfacts>



# Proposed Approach (EconBiz Author Profiles)

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to make use of the available data in various sources  
by harvesting, cross-linking - **on the fly**

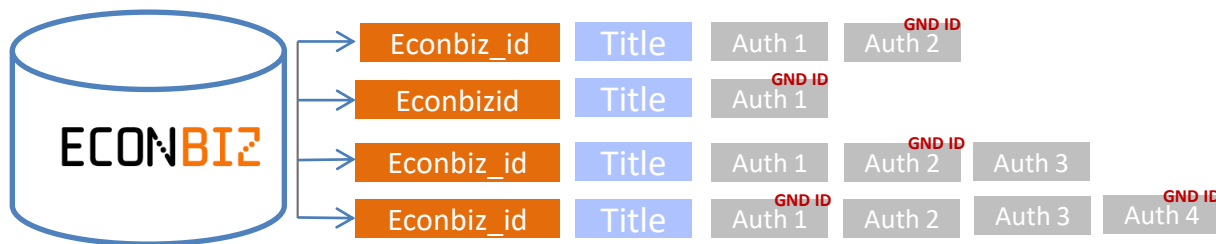


# EconBiz use case

**EconBiz** is a subject portal for economics and business studies, provided by the  
ZBW - Leibniz Information Centre for Economics

~ 11 Million bibliographical records [titles]

Partial disambiguation state, concerning authors



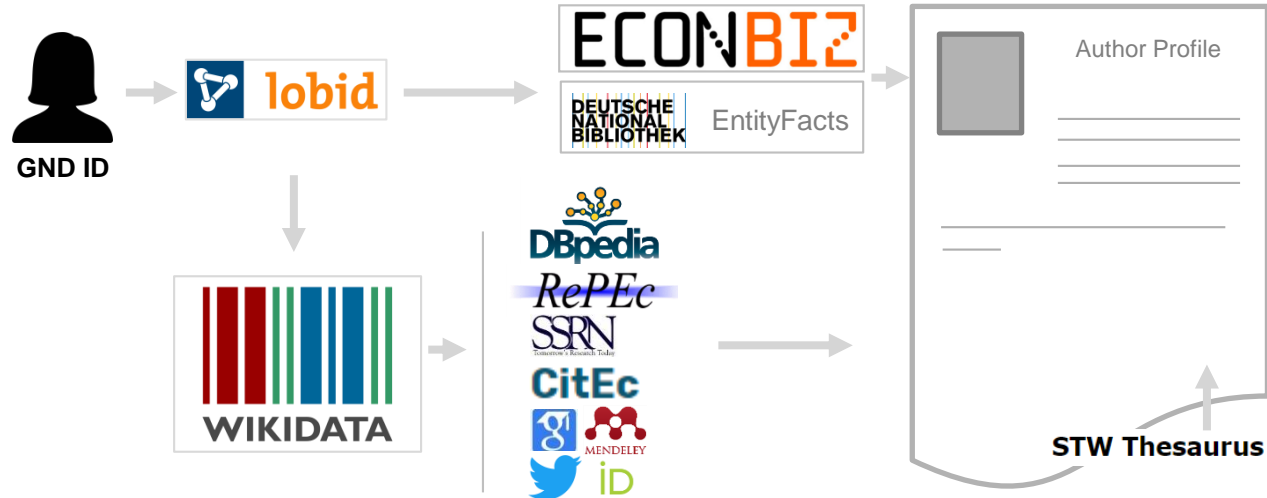
(~ 0.5 Million authors are identified with GND ID)

Figure Source: Hajra, A., Pianos, T., and Tochtermann K., 2020 "Linking Author Information: EconBiz Author Profiles."  
In *Research Conference on Metadata and Semantics Research*. Springer, Cham. (in-press)

# Author profiles – the flow chart

The **GND ID** is adapted as the main identifier for authors.

Using the existing data - services or SPARQL queries to endpoints such as EntityFacts, Wikidata, DBpedia, RePEc, etc.



GND: 1236529



EntityFacts(GND)

DBpedia

Twitter

Wikidata

Prof. Dr.

**Alternative spellings:**  
W. D. Nordhaus  
U. Nordchauz  
W. Nordhaus  
William Nordhaus  
Weilian Nuodehaosi  
Weilian Nuodehaosi  
威廉 诺德豪斯  
威廉 诺德豪斯  
威廉 诺德豪斯  
威廉 诺德豪斯

Total Citations: **5,723**  
h Index: **35**  
i10: **77**  
Source: *CitEc*

B: 1941 Albuquerque, NM

**Biblio:** Seit 1970 an der Yale University tätig; Associate Professor, 1973-1978 Professor, 1979-1991 John-Musser-Professor, dann A.-Whitney-Griswold-Professor und seit 2001 ist er Sterling-Professor für Ökonomie; Nobelpreis (Ökonomie) 2018



Source: [Wikimedia Commons](#)

Information about the license status of integrated media files (e.g. pictures or videos) can usually be called up by clicking on the Wikimedia Commons URL above.

William Dawbney "Bill" Nordhaus (born May 31, 1941) is an economist and Sterling Professor of Economics at Yale University, best known for his work in economic modeling and climate change. (Source: [DBPedia](#))

Profession

Economist  
Nobelpreisträger  
Hochschullehrer

### Affiliations

- Yale University
- National Bureau of Economic Research

## External links

- Gemeinsame Normdatei (GND) im Katalog der Deutschen Nationalbibliothek
- Bibliothèque nationale de France
- Wikipedia (Deutsch)
- Wikipedia (English)
- Deutsche Digitale Bibliothek
- NACO Authority File
- International Standard Name Identifier (ISNI)
- Virtual International Authority File (VIAF)
- Wikidata

-  Google Scholar
-  ORCID
-  RePEc
-  Nobel
-  SSRN
-  Scopus Preview
-  Scholia
-  Twitter

Do you agree with our terms and privacy  Show tweets

Tweets by @GullBansa21



ONLINE FAS

[onlinetipstrick.blogspot.com/2015/01/remove...](http://onlinetipstrick.blogspot.com/2015/01/remove...)

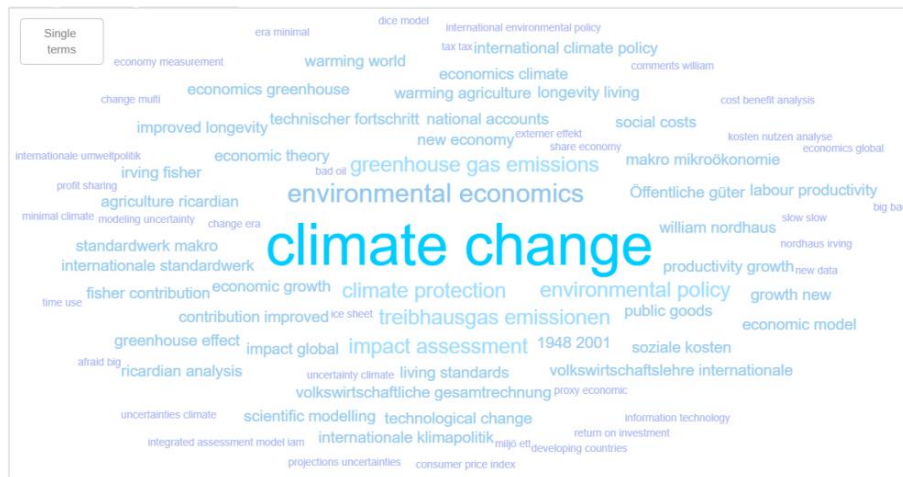
Jan 15, 2011

Prizes in Economics

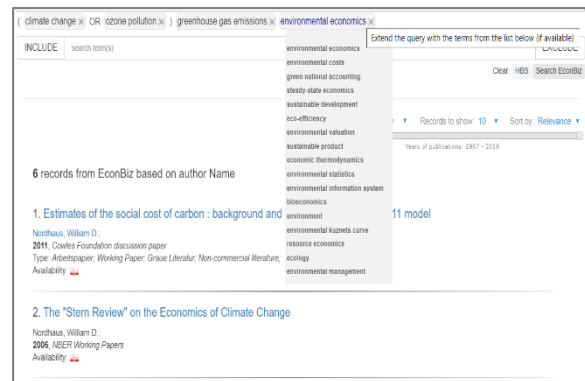
2018 - Nobel Prize in Economics

## Topic representation – EconBiz API

Using terms/concepts from **titles**, **abstracts** and **subjects** (the corresponding author's GND is present)



Provide an overview on the main terms / topics used in the author's research output



- reformulate the search query to narrow down the results

# Co-authorship relations



1. ☐ Anthoff, David (4)
2. ☐ Berger, Regina (1)
3. ☐ Blanford, Geoffrey J. (4)
4. ☐ Bosetti, Valentina (4)
5. ☐ Boyer, Joseph G. (1)
6. ☐ Boyer, Joseph (1) ✓
7. ☐ Brainard, William C. (1)
8. ☐ Brainard, William C. (1) ✓
9. ☐ Chen, Xi (5)
10. ☐ Christensen, Peter Ove (1)
11. ☐ Christensen, Peter (2) ✓
12. ☐ Darwin, Roy F. (2)
13. ☐ Dietz, Simon (1)
14. ☐ Dimand, Robert W. (2)
15. ☐ Dore, Mohammed H. I. (1)
16. ☐ Frenzel, Johanna (3)
17. ☐ Frondel, Manuel (1)
18. ☐ Gillingham, Kenneth (4)
19. ☐ Goldstein, Ramy (1)
20. ☐ Grübler, Arnulf (1)
21. ☐ Horowitz, John Keith (2)
22. ☐ Jaffe, Adam B. (1)
23. ☐ Johnson, William Richard (1)
24. ☐ Jones, Charles I. (1)
25. ☐ Jorgenson, Dale Weldeau (2)
26. ☐ Jöst, F. (1)
27. ☐ Kaya, Yoichi (1)
28. ☐ Kelleher, J. Paul (1)
29. ☐ Kerr, Suzi (1)
30. ☐ Klepper, Gernot (1)

A quick view to collaborations, including frequency  
Easy navigation to other authors

# Authors working on similar topics

Authors on similar topics

Similarity level: 2 [1-more similar, 4-less similar]

Based on: ☒ thesaurus ☐ title and abstract

- ☒ Xepapadeas, Anastasios
- ☒ Edenhofer, Ottmar
- ☒ Kahn, Matthew E.
- ☒ Aronsson, Thomas
- ☒ Schöb, Ronnie
- ☒ Ströbel, Johannes C.
- ☒ Giglio, Stefano
- ☒ Sturm, Bodo
- ☐ Sommer, Stephan
- ☐ Noy, Ilan
- ☐ Buchholz, Wolfgang
- ☐ Kopp, Robert E.
- ☐ Löschel, Andreas
- ☐ Bangalore, Mook
- ☐ Kolstad, Charles D.

Similar publications from the author's domain

1. An economist's guide to climate change science
2. What is a climate response measure? : breaking the trade taboo in confronting climate change
3. How does climate change affect optimal allocation of variable renewable energy?
4. Foreign aid and climate change policy : what can('t) the data tell us?
5. Hurricanes, climate change policies and electoral accountability
  - Hurricanes, climate change policies and electoral accountability
6. Game theory and climate change

- find scholars who work on similar topics by analyzing the entire EconBiz collection.
- slider makes it possible to display more or less similar scholars.

# Other sources

Related articles from:



| Harvard Business School Working Knowledge

1. **COVID-19's Hard Lessons Might Prepare Business for Climate Change**  
by Danielle Kost (01 May, 2020) - [In Practice](#)
2. **Fighting Climate Change Requires a New Capitalism**  
by Danielle Kost (30 April, 2020) - [Book](#)
3. **How Investors Are Sizing Up Climate Change's Risks—and Opportunities**  
by Danielle Kost (22 April, 2020) - [Research Event](#)
4. **Shareholder Activism and Firms' Voluntary Disclosure of Climate Change Risks**  
by Caroline Flammer, Michael W. Toffel, and Kala Viswanathan (13 November, 2019) - [Working Paper Summaries](#)
5. **Torched Planet: The Business Case to Reinvent Almost Everything**  
by Rebecca Henderson (06 November, 2019) - [Op-Ed](#)
6. **Decarbonization Factors**  
by Alex Cheema-Fox, Bridget LaPerla, George Serafeim, David Turkington, and Hui (Stacie) Wang (23 October, 2019) - [Working Paper Summaries](#)
7. **Even for Non-Believers, These Are the Next Steps on Climate Change**  
by John Macomber (07 September, 2019) - [Op-Ed](#)



# Topic pages / COVID-19

Search for author...

Nobels in Economics

Top 1,000 RePEc Economists

@

ECONBIZ  
Author Profiles

Terms

Co-authors

Related authors

Click on a term to reduce result list

Single terms

COVID-19

crisis management

covid new

labor market

coping strategy

financial crisis

covid-pandemic

developing countries

sars cov

economic policy

impact covid

crisis covid

spread covid

impacts covid

covid sars

post covid

the covid

firm level

sir model

soziale folgen

covid policy

zeiten corona

economic crisis

fiscal policy

well being

real time

covid covid

eu staaten

effects covid

time covid

covid small

health policy

school closures

labour market

eu countries

covid 19 pandemic

new york

social distancing

developing world

public debt

mental health

INCLUDE

search term(s)

EXCLUDE

Records: 10

Sort by: Relevance

4,240 records from EconBiz

1. Innovative "Bring-Service-Near-Your-Home" operations under Corona-Virus (COVID-19/SARS-CoV-2) outbreak : can logistics become the Messiah?

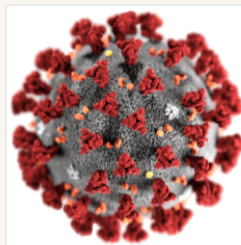
Choi, Tsan-Ming;

2020

Type: Aufsatz in Zeitschrift; Article in journal;

## COVID-19

Alternative spellings:  
SARS-CoV-2  
Coronavirus



Source: [Wikimedia Commons](#)

Information about the license status of integrated media files (e.g. pictures or videos) can usually be called up by clicking on the Wikimedia Commons UR above.

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease was first identified in December 2019 in Wuhan, the capital of China's Hubei province, and has since spread globally resulting in the ongoing 2019–20 coronavirus pandemic. Common symptoms include fever, cough, and shortness of breath. Other symptoms may include muscle pain, sputum production, diarrhea, sore throat, loss of smell, and abdominal pain. While the majority of cases result in mild symptoms, some progress to viral pneumonia and multi-organ failure. As of 4 April 2020, more than 1.18 million cases of have been reported in more than two hundred countries and territories, resulting in over 64,000 deaths. More than 245,000 people have recovered.

Source: [Wikipedia](#)

Krolage, Carla Fairlie, Robert W.  
Seebauer, Johannes Michelsen, Claus Engerer, Hella  
Hauber, Philipp Kolev, Galina V. Brodeur, Abel Dave, Dhaval  
Krueger, Dirk Link, Sebastian Beer, Sonja  
Dullien, Sebastian Link, Sebastian Clemens, Marius  
Chan, Ho Fai Brodeur, Abel Link, Sebastian  
Baldi, Guido Graeber, Daniel Kooths, Stefan Grömling, Michael  
Grömling, Michael Bardt, Hubertus Rieth, Malte Strobl, Eric  
Fuest, Clemens Hüther, Michael Coibion, Olivier  
Hüther, Michael Felbermayr, Gabriel Wright, Taylor  
Gern, Klaus-Jürgen Kooths, Stefan Weber, Enzo  
Tertiit, Michele Kroh, Martin Rathelot, Roland  
Sabia, Joseph J. Weder, Beatrice

# Limitations

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Not all publications in the EconBiz collection are connected to a GND-ID.

- These publications cannot be used for the creation of the tag-clouds
- missing publications in the search results (when the GND ID is specified as matching criteria)

Using author name as string match criteria

- results in mixture of publications from two or more authors who have the same name.

Domain impact

- lack of information for authors publishing on other fields

# Summary

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The author profiles provide a number of benefits

- explore the scholarly output of individual authors
- quick overviews on the research interests of a scholar
- linking to more information like co-authors or related authors
- identify other scholars who work in a similar field
- find publications relevant to a scholar's own field of interest.
- listing other author pages

Created automatically - using already existing IDs and information  
(no need for the scholar to provide data)

Can serve as a tool for quality control - makes it easy to identify possible mistakes.


# DEMO

Search for author: Nobels in Economics Top 1,000 RePEc Economists

Richard H. Thaler

Prof. Dr.  
Alternative spellings:  
Richard Thaler

B: 1945 East Orange, NJ  
Biblio: Nobelpris (Wirtschaftswissenschaften) 2017



Source: Wikimedia Commons  
Information about the license status of associated media files (e.g. in pictures or videos)  
[Feedback](#) • [Contact us](#) • [Imprint](#) • [Privacy](#) • [EconBiz](#)

Terms: Co-authors Related authors

Click on a term to reduce result list

behavioral economics

INCLUDE search term(s) EXCLUDE

Match by: author Name Records to show: 10 Sort by: Relevance


Years of publications: 1974 - 2018

Search for author: Nobels in Economics Top 1,000 RePEc Economists

William D. Nordhaus

Prof. Dr.  
Alternative spellings:  
W. D. Nordhaus  
U. Nordhaus  
W. Nordhaus  
William Nordhaus  
William Nordhaus  
威廉·诺德豪斯  
威廉·诺德豪斯  
威廉·诺德豪斯

B: 1941 Albany, NY  
Biblio: Seit 1977 an der Yale University 1980 Associate Professor 1973-1978 Professor 1979-1991 John M. Musgrave Professor, demnächst William G. Braithwaite Professor und seit 2001 1st or Sterling Professor for Economics, Nobelpris (Ökonomie) 2018



219 records from EconBiz based on author GND ID

1. Reflections on the 2018 Nobel Memorial Prize awarded to William Nordhaus

Volume: 2 Part: Nordhaus, William D.  
2019  
Title: Aufsatz in Zeitschrift, Article in Journal  
Availability: Link List

Terms: Co-authors Related authors

Click on a term to reduce result list

climate change

INCLUDE search term(s) EXCLUDE

Match by: author GND Records to show: 10 Sort by: Relevance


Years of publications: 1989 - 2019

Search for author: Nobels in Economics Top 1,000 RePEc Economists

Esther Duflo

Prof.  
Alternative spellings:  
Esther Caroline Duflo  
E. Duflo

B: 1972  
Biblio: Nobelpreisträgerin für Wirtschaft 2019



Feedback • Contact us • Imprint • Privacy • EconBiz

Terms: Co-authors Related authors

Click on a term to reduce result list

evidence randomized impact assessment

INCLUDE search term(s) EXCLUDE

Match by: author Name Records to show: 10 Sort by: Relevance

Years of publications: 1999 - 2019

<https://authors.econbiz.de>



Leibniz-Informationszentrum  
Wirtschaft  
Leibniz Information Centre  
for Economics

# Description of main features in English and German

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## Forscherprofile in EconBiz: Halbautomatische Generierung mit Linked Open Data

Die EconBiz-Autorenprofile zeigen die wichtigsten Forschungsgebiete von Autorinnen und Autoren der Wirtschaftswissenschaften auf, erleichtern die Suche nach der richtigen Person im Falle doppelt vorkommender Namen und liefern zusätzliche Informationen zur Person.

<https://www.zbw-mediataalk.eu/de/2020/04/forscherprofile-in-econbiz-halbautomatische-generierung-mit-linked-open-data/>

**ZBW**  
MEDIATALK

## Researcher Profiles in EconBiz: Semi-Automated Generation Based on Linked Open Data

The EconBiz Author Profiles show the most important research areas of an author in Business Studies and Economics, make it easy to get information on the right person in case of duplicate names and provide additional information on the author. Comprehensive author information is provided on one page. The profiles are created by linking existing data and identifiers.

<https://www.zbw-mediataalk.eu/2020/04/researcher-profiles-in-econbiz-semi-automated-generation-based-on-linked-open-data/>

# Thank you! Questions?

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Contact us:

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[a.hajra@zbw.eu](mailto:a.hajra@zbw.eu)  
@ahajra

Dr. Tamara Pianos  
[t.pianos@zbw.eu](mailto:t.pianos@zbw.eu)  
@taps69

ZBW  
<https://www.zbw.eu/de/>



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Wirtschaft  
Leibniz Information Centre  
for Economics