



## **Publikation - Zitation - Inflation**

**Bedeutung von Sammelwerken in für die Wissenschaft im Zeitalter von Open Access**

13.01.2022 | DR. DIRK TUNGER | COMMUNITY-PLENUM „QUO VADIS SAMMELWERK“

**Technology**  
**Arts Sciences**  
**TH Köln**

**"Zählen und Messen  
sind die Grundlagen  
der fruchtbarsten,  
sichersten und  
genauesten  
wissenschaftlichen  
Methoden, die wir  
überhaupt kennen."**

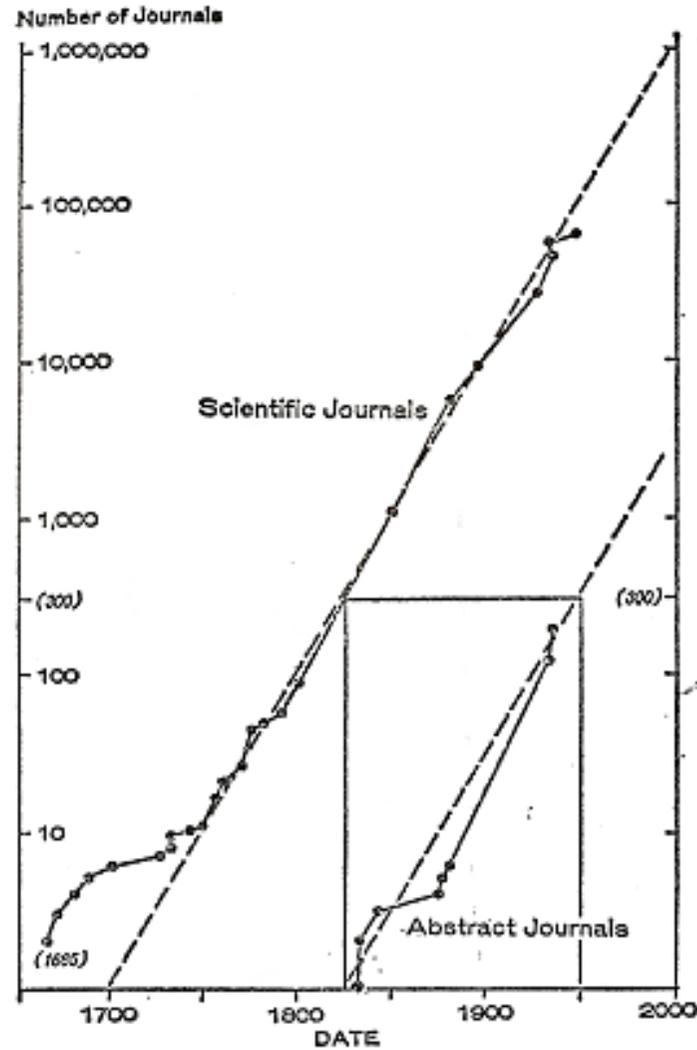
Hermann von Helmholtz, 1879

Hermann von Helmholtz  
(Porträt von Ludwig Knaus, 1881)



# Wissenschaftskommunikation

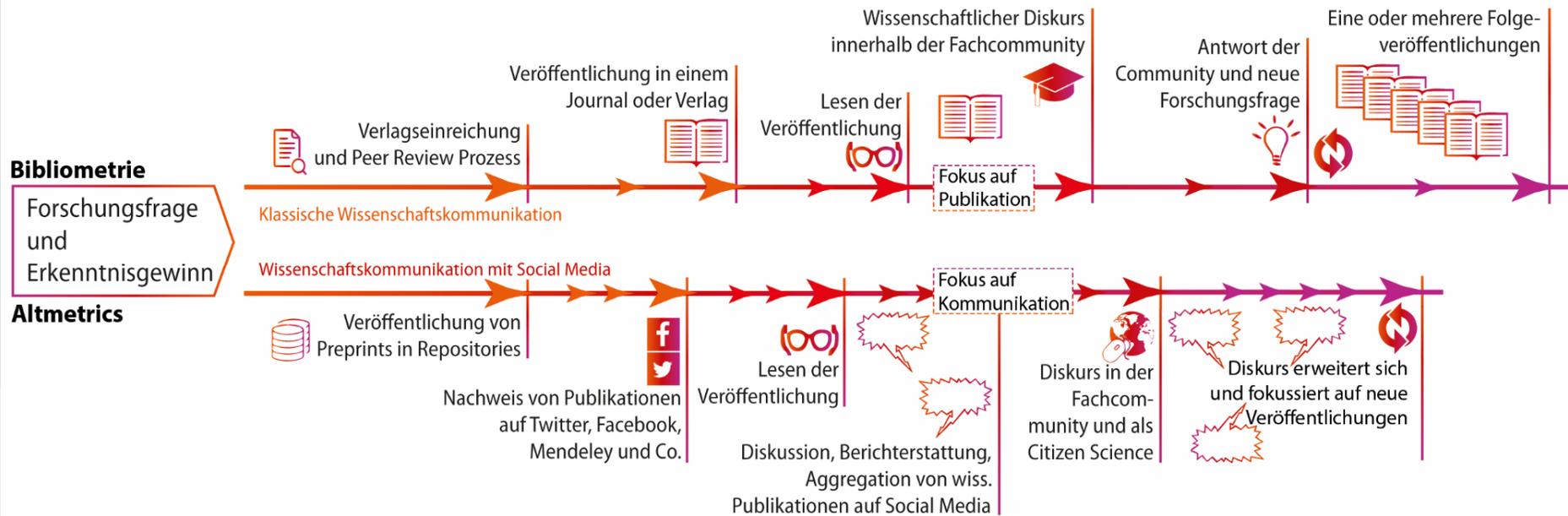
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(De Solla Price, 1963: Little Science – Big Science)

# Wissenschaftskommunikation

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**Fühles-Ubach, S & Tunger, D: Daten und Metriken als Baustein von Benchmarking und Strategiebildung in der Wissenschaft in: Wissenschaftsmanagement, 2021**

# Warum zitieren Wissenschaftler?

1. Paying homage to pioneers.
2. Giving credit for related work (homage to peers).
3. Identifying methodology, equipment, etc.
4. Providing background reading.
5. Correcting one's own work.
6. Correcting the work of others.
7. Criticizing previous work.
8. Substantiating claims.
9. Alerting researchers to forthcoming work.
10. Providing leads to poorly disseminated, poorly indexed, or uncited work.
11. Authenticating data and classes of fact—physical constants, etc.
12. Identifying original publications in which an idea or concept was discussed.
13. Identifying the original publication describing an eponymic concept or term as, e.g., Hodgkin's disease, Pareto's Law, Friedel-Crafts Reaction, etc.
14. Disclaiming work or ideas of others (negative claims).
15. Disputing priority claims of others (negative homage).

Garfield, Eugene (1966): When to cite *in*: Library Quarterly

# Was ist der Wert einer Zitation?

- **Verbindung von 2 oder mehr Publikationen, die auf einen Wissenstransfer hinweisen**
- **Der Arbeit eines Wissenschaftlers Aufmerksamkeit zuteil werden lassen**
- **Akzeptanz wissenschaftlicher Ergebnisse**
- **Möglichkeit, das Wissen über den state of the art in einer Disziplin darzustellen**

## Bibliometrie

- **Nutzt und entwickelt Indikatoren zur Messung der Wirkung von Forschung**
- **Mappt die Strukturen des Wissenschaftssystems**

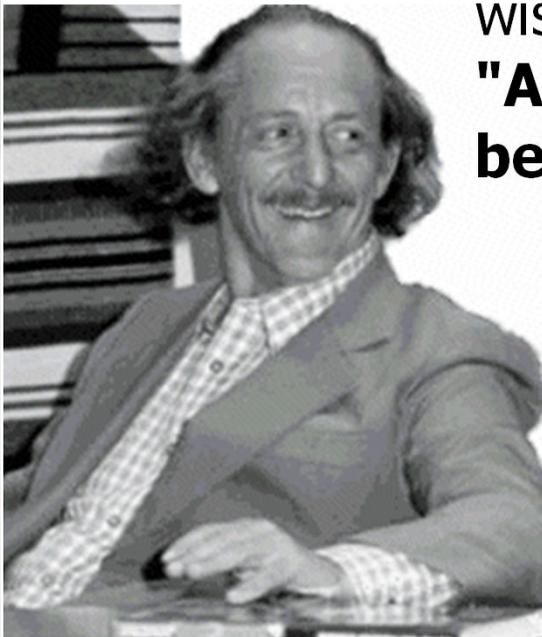
Wolfgang G Stock, 2001: Publikation und Zitat – Die problematische Basis empirischer Wissenschaftsforschung. Kölner Arbeitspapiere zur Bibliotheks- und Informationswissenschaft, Band 29

# Der Science Citation Index

**Ein Zitationsindex "is an ordered list of cited articles each of which is accompanied by a list of citing articles"**

Es werden in einem Zitationsindex nicht nur die reinen bibliographischen Angaben verzeichnet, sondern zusätzlich die in einem Artikel referierten Fußnoten. Dies ist die Grundlage, um die Verbindungen zwischen den einzelnen wissenschaftlichen Artikeln nachzuweisen.

**"Any source citation may subsequently become a reference citation"**



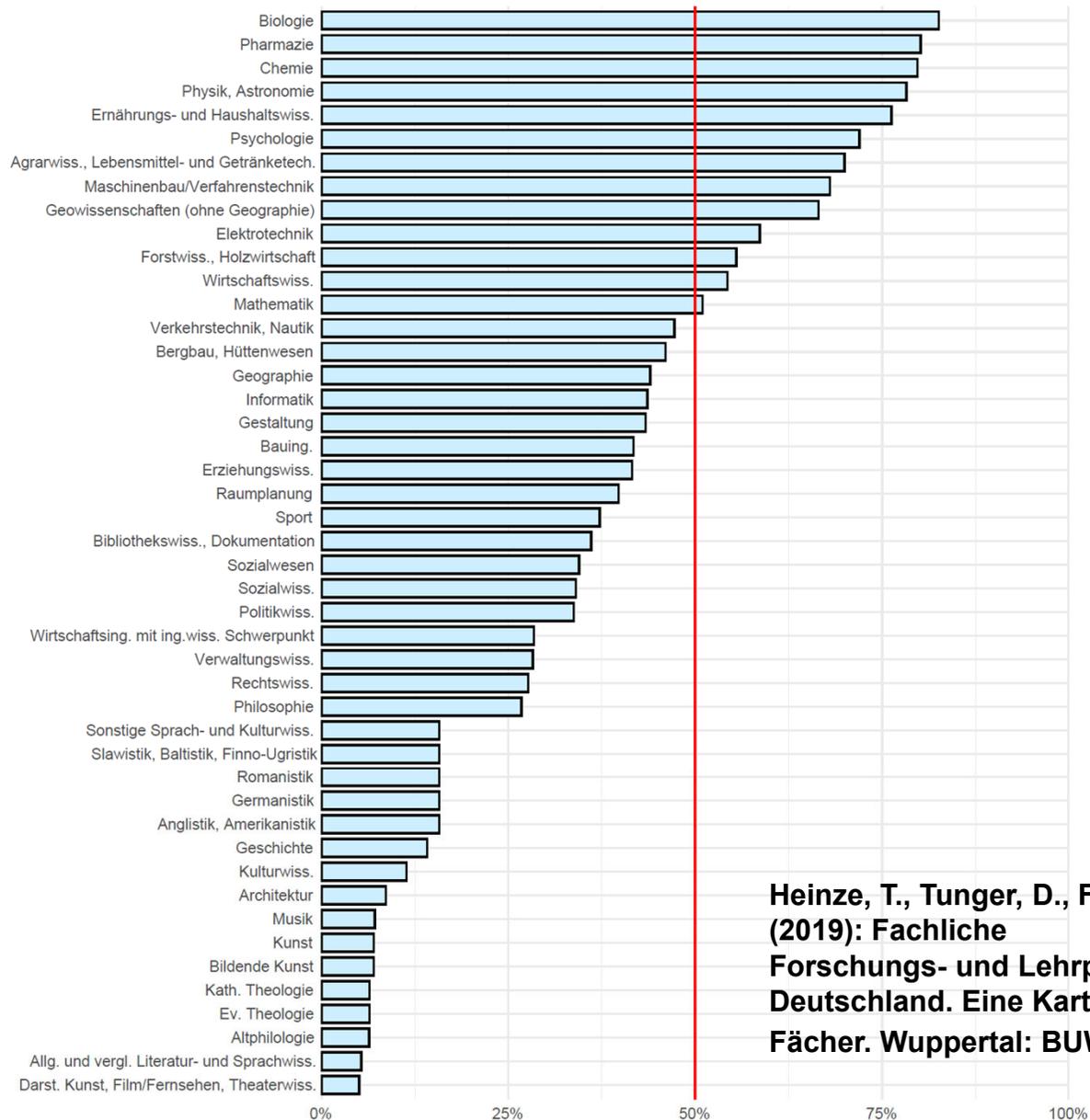
**Science Citation Index - A New Dimension in Indexing."  
Essays of an Information Scientist 7: 525-535  
Nachdruck aus: Science 144 (3619) p. 649 - 654**

# Publikationen weltweit im SCI

Discipline	Publications [%]		
	in journals ⇅	in WoS ⇅	WoS coverage ⇅
Molecular biology & biochemistry	96	97	92
Biological sciences (related to humans)	95	95	90
Chemistry	90	93	84
Clinical Medicine	93	90	84
Physics and astronomy	89	94	83
<i>WoS average</i>	<i>84</i>	<i>90</i>	<i>75</i>
Applied physics and chemistry	83	89	73
Biological sciences (animals and plants)	81	84	69
Psychology and psychiatry	75	88	66
Geosciences	77	81	62
Other social sciences (medicine and health)	75	80	60
Mathematics	71	74	53
Economics	59	80	47
Engineering	60	77	46
Social sciences	41	72	29
Humanities and arts	34	50	17

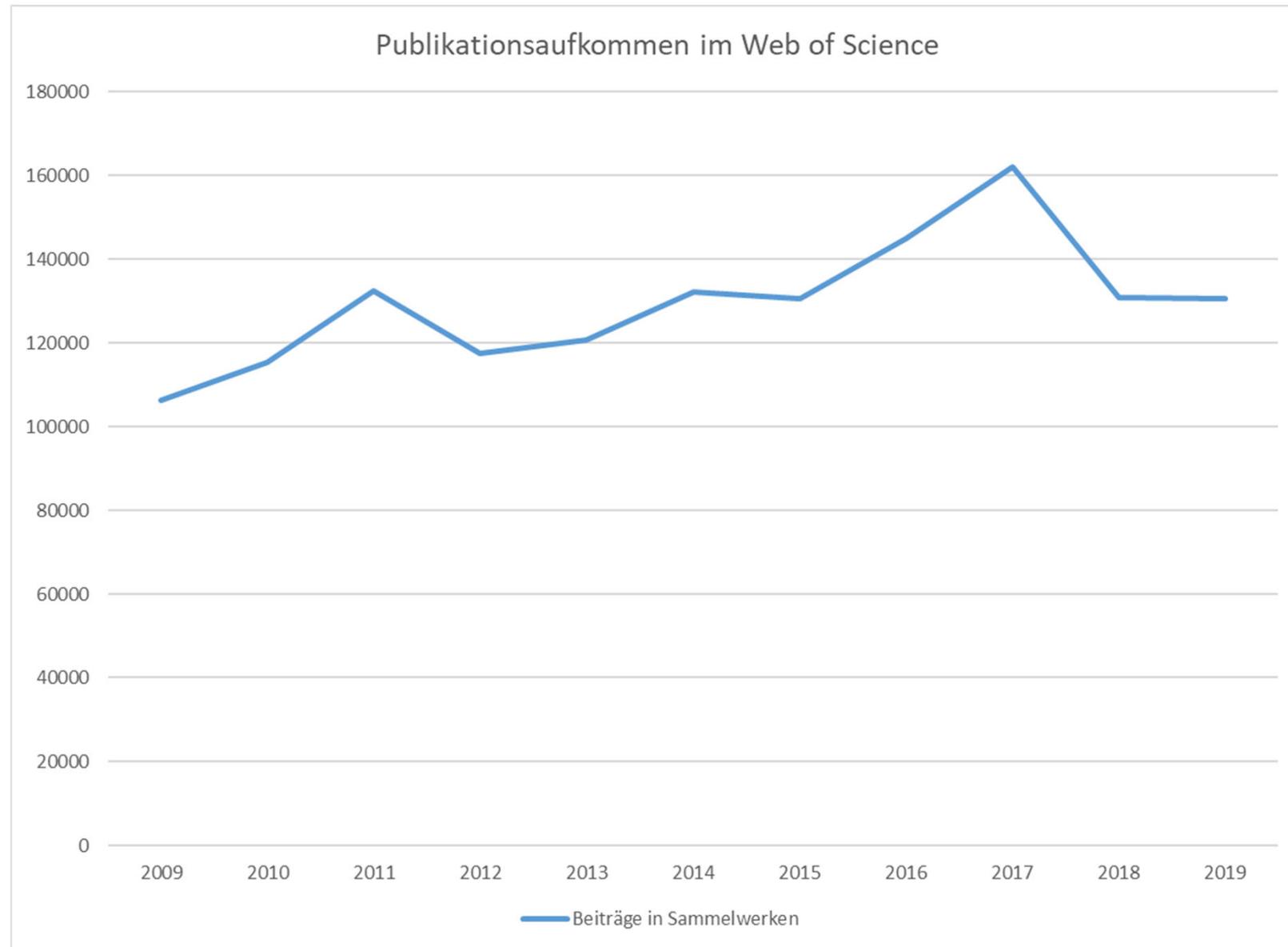
Craig & Ferguson, 2009, S. 163

# Abdeckungsraten von Fächern SCI

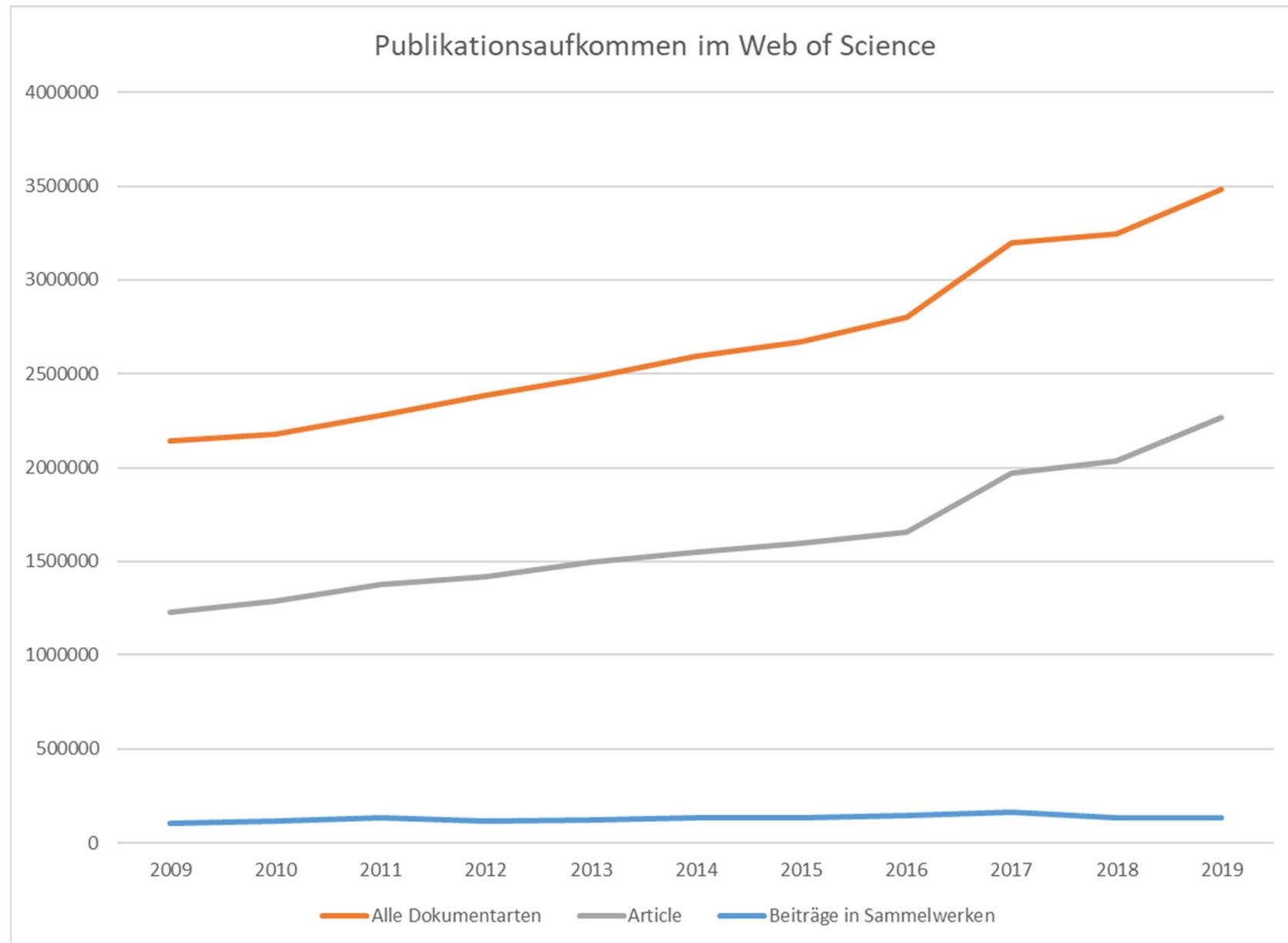


Heinze, T., Tunger, D., Fuchs, J.E., Jappe, A., Eberhardt, P. (2019): Fachliche Forschungs- und Lehrprofile staatlicher Universitäten in Deutschland. Eine Kartierung ausgewählter Fächer. Wuppertal: BUW. (DOI: 10.25926/9242-ws58)

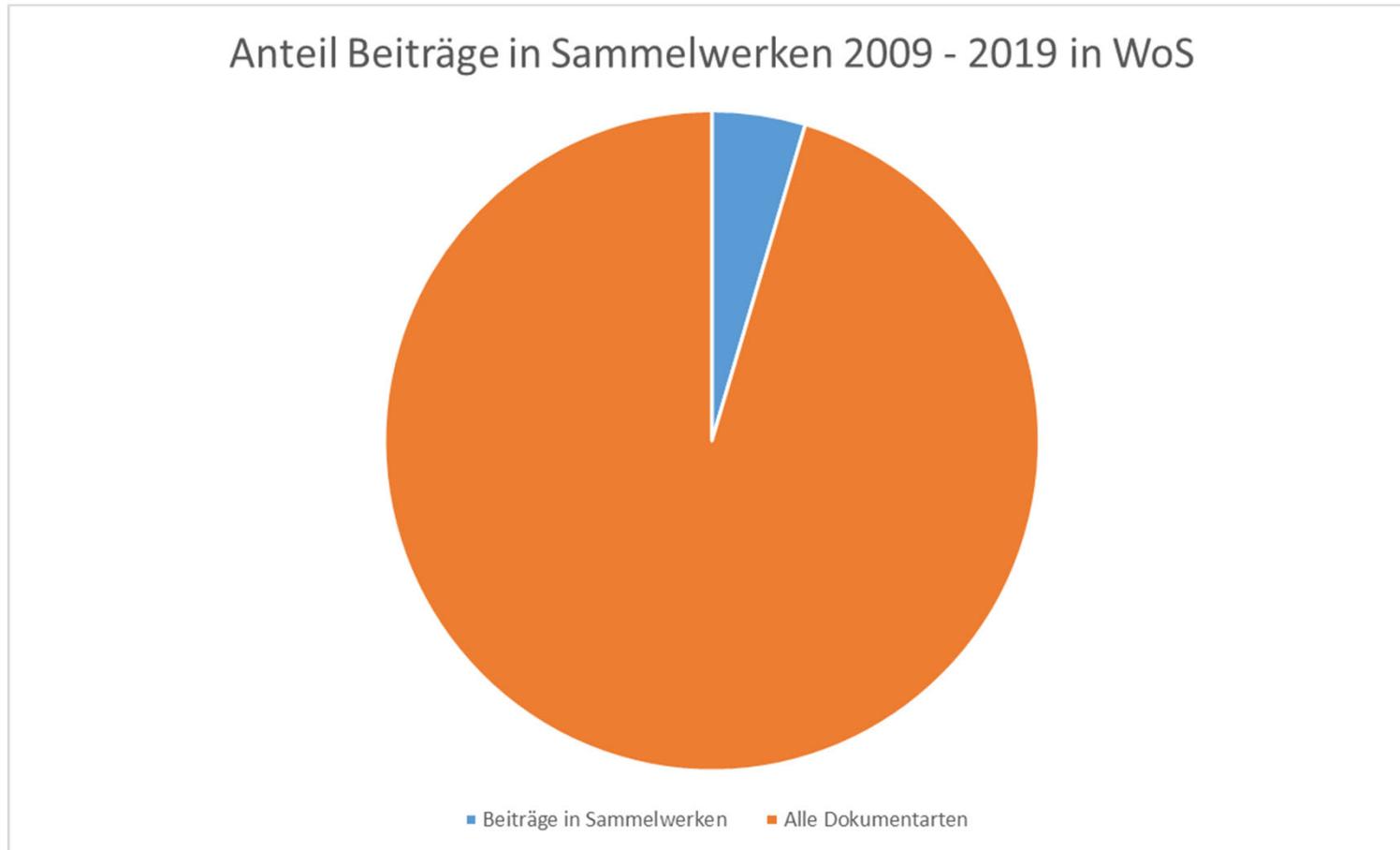
# Sichtbarkeit von Literatur im WoS



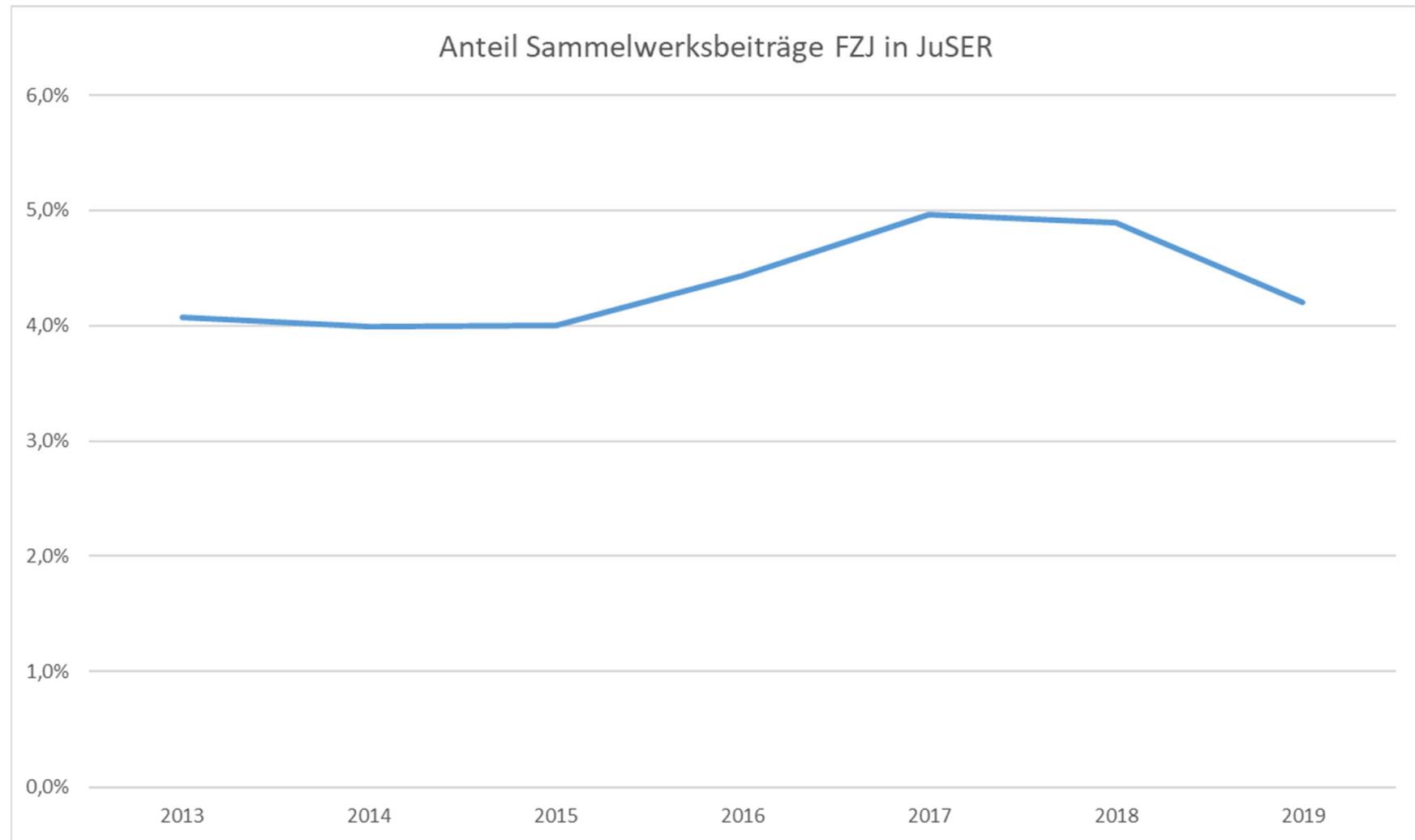
# Sichtbarkeit von Literatur im WoS



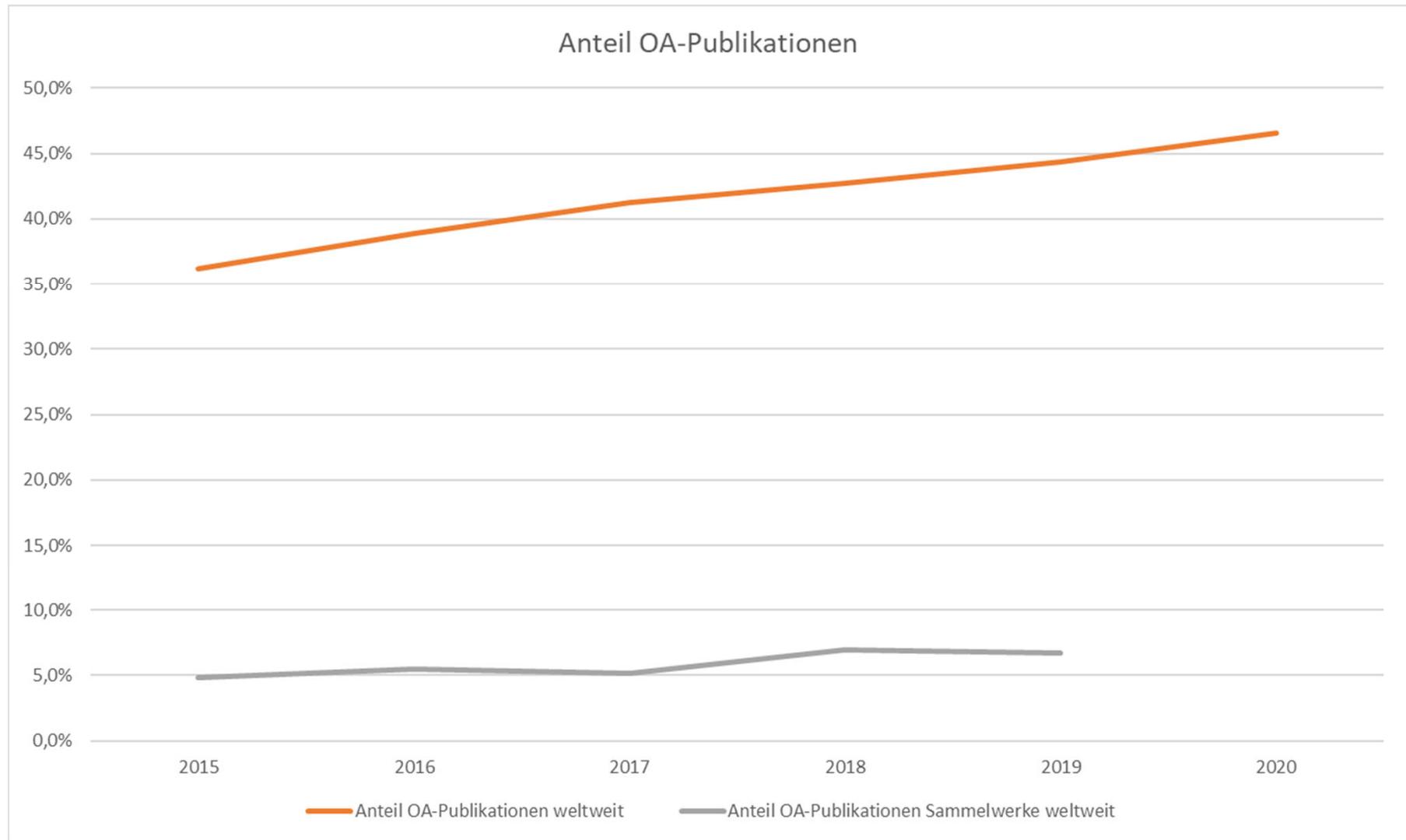
# Anteil von Sammelwerksbeiträgen im WoS



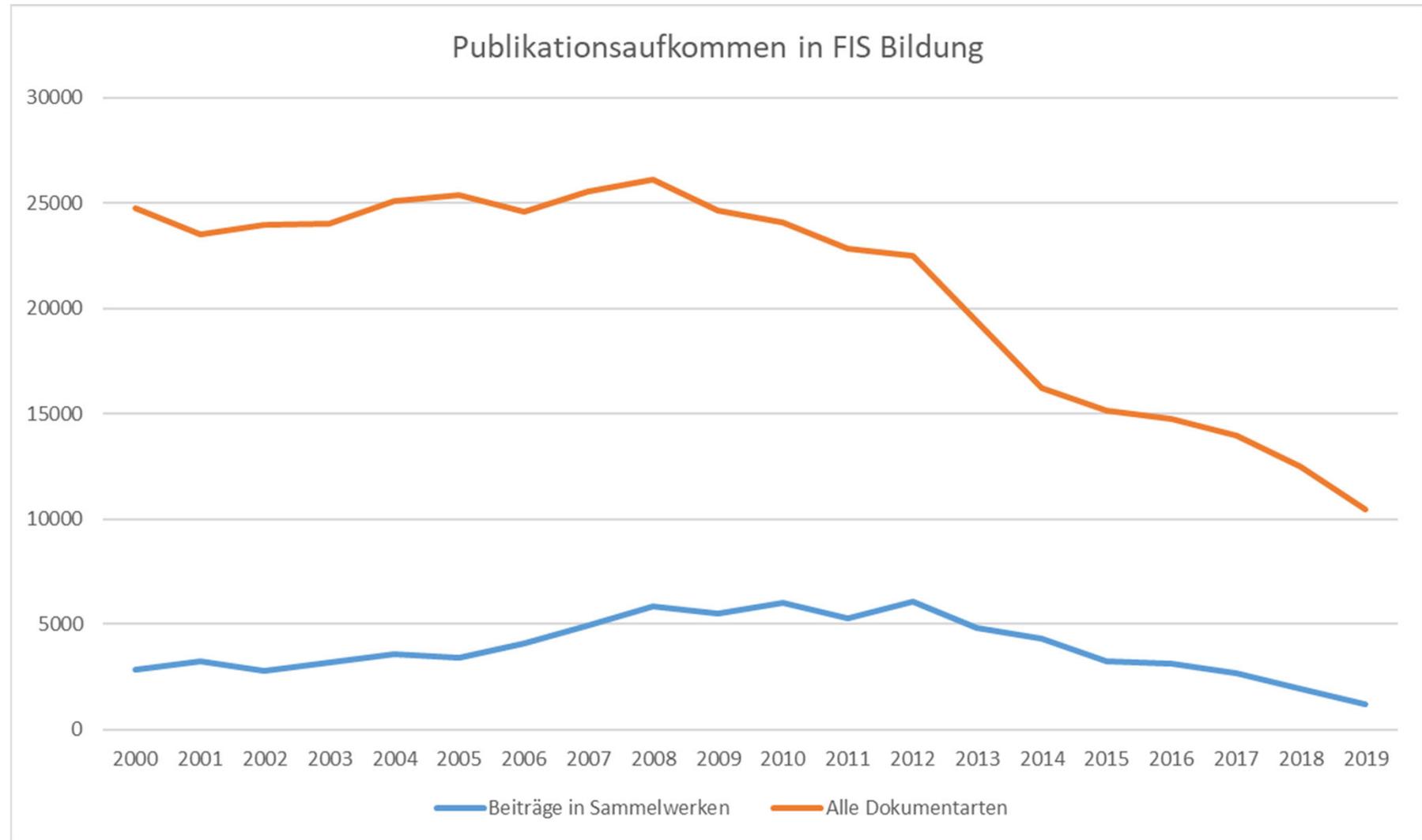
# Anteil von Sammelwerksbeiträgen in einer internen Publikationsdatenbank



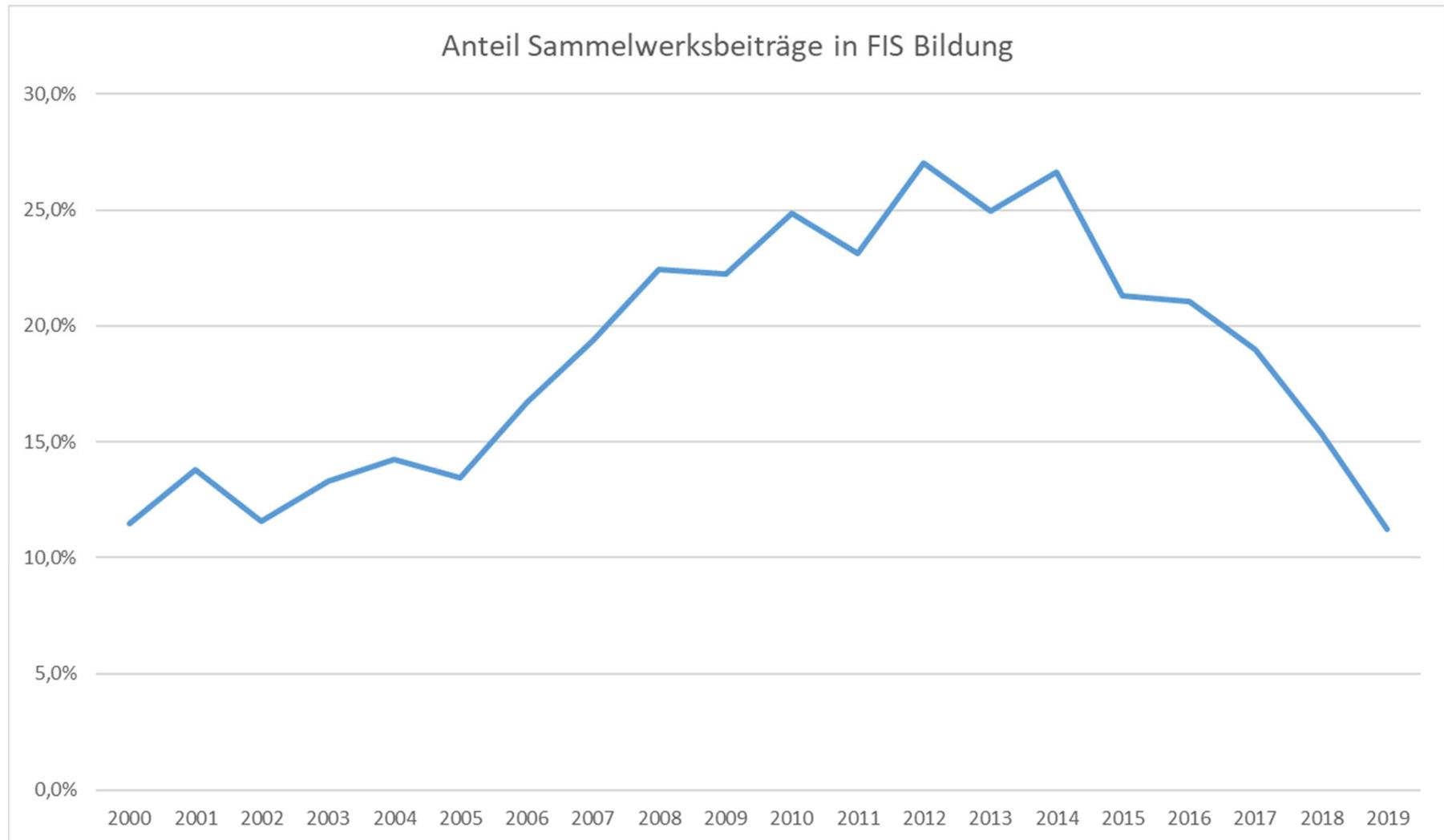
# OA-Anteil von Sammelwerksbeiträgen in WoS



# Sichtbarkeit von Literatur in FIS Bildung



# Anteil von Sammelwerksbeiträgen in FIS Bildung



# Qualität von Sammelwerken

The screenshot shows the IntechOpen website homepage. At the top, there is a navigation bar with links for Books, IntechOpen Book Series, Publish, About, and News. The main header area has a red background with the text: "We are IntechOpen — the world's leading publisher of Open Access books". Below this are two buttons: "SUBMIT YOUR WORK" and "EXPLORE PUBLICATIONS". The central part of the page features a large infographic with a central text: "World's First Open Access Book Publisher". Surrounding this central text are several circular callouts and book cover images with associated statistics and titles:

- 5,600 OPEN ACCESS BOOKS** (circled in red)
- +146,270 CITATIONS IN WEB OF SCIENCE** (circled in red)
- +3.3 MILLION UNIQUE VISITORS PER MONTH** (circled in red)
- 46 DIMENSIONAL CITATIONS** (circled in red)
- LET'S GO BOOK PUBLISHED BY** (circled in red)
- WOMEN IN SCIENCE BOOK PROGRAM** (circled in red)
- ARTIFICIAL INTELLIGENCE** (circled in red)
- CHAPTER BY NOBEL PRIZE WINNING AUTHOR** (circled in red)
- INFECTION DISEASES** (circled in red)
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- FOUNDER TRANSFORM INFLUENTIAL OPENNESS FOR THOUSANDS FILES** (circled in red)
- AWARDED GOETTER VON RANNEWITZ PRIZE** (circled in red)
- Low-Dose Radiobiology of Prostate: How Open-Planar Steroids as an Example of Treatment Effects in Damage Diseases** (circled in red)
- Anticancer and Application of Carbon Nanotubes and Their Composites** (circled in red)
- Getting Edge Robotics** (circled in red)
- THE WEB OF SCIENCE CITATIONS** (circled in red)
- Editorial Commissioned International Organization of Scientific Publishers** (circled in red)
- Articulation, Analysis, Synthesis, Prediction, Optimization and Active Motion** (circled in red)
- By Miao Fan** (circled in red)
- By Robert Harman, Mirko Nitsche, Frank Brune** (circled in red)

# Qualität von Sammelwerken

[Home](#) > [Books](#) > [Metrology](#)

*Open access peer-reviewed Edited Volume*

## Scientometrics



**Edited by Mari Jibu**  
*Japan Science and Technology Agency, Japan*

**Co-editor:**



**Yoshiyuki Osabe**  
*Japan Science and Technology Agency, Japan*

Technological change is one of the greatest issues in the modern world. As the world faces societal challenges, e.g., climate challenges, aging problem, and energy security, technology will contribute to new or better solutions for those problems. New technologies take time to develop and mature; moreover, they tend to be born in the gaps of multiple technology fields; therefore, early detection o...

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eBook (PDF) ISBN: 978-1-83881-692-6

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# Qualität von Sammelwerken

*Open access peer-reviewed*

## 1. Introductory Chapter: Scientometrics

Citations 1

712

*By Yoshiyuki Osabe and Mari Jibu*

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## 2. Scientometrics of Scientometrics: Mapping Historical Footprint and Emerging Technologies in Scientometrics

Citations 4

1222

*By Meen Chul Kim and Yongjun Zhu*

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## 3. Patterns of Academic Scientific Collaboration at a Distance: Evidence from Southern European Countries

Citations 1

787

*By Ana Fernández, Esther Ferrándiz and M. Dolores León*

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## 4. Mapping a Research Field: Analyzing the Research Fronts in an Emerging Discipline

Citations 1

821

*By Gerardo Tibaná-Herrera, María Teresa Fernández-Bajón and Félix de Moya-Anegón*

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## 5. Collaboration and Citation Analysis Within Social Sciences: A Comparative Analysis Between Two Fields

Citations 2

786

*By Alexander Maz-Machado and Noelia Jiménez-Fanjul*

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## 6. A Scientometric Study on Graphene and Related Graphene- Based Materials in Medicine

716

*By Nicola Bernabò, Rosa Ciccavelli, Alessandra Ordinelli, Juliana Sofia Somoos Machado, Mauro Mattioli and Barbara Barboni*

# Quo vadis, Sammelband?

Sammelbände haben eine wichtige Funktion in der Wissenschaftskommunikation, vor allem sollen sie aktuelle **Publikationen zu einem Thema bündeln.**

Wichtig für die Zukunft sind folgende Aspekte:

- Bekanntheit der Autor:innen
- Qualität des redaktionellen Prozesses
- Verbreitung von Sammelwerken
- Freier Zugang zu Sammelwerken
- Sichtbarkeit und Wahrnehmung in Literaturdatenbanken

# Vielen Dank

TH Köln

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