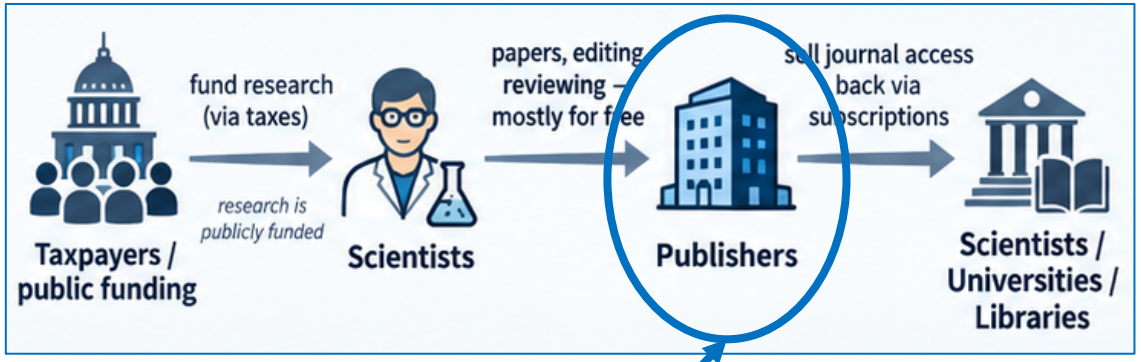
The Cost against the Value of Knowledge

1. Publishing models
2. What is the problem?
3. Where to look for solutions

Sustainable Communication Networks | University of Bremen
19.10.2026 | Prof. Dr. Anna Förster

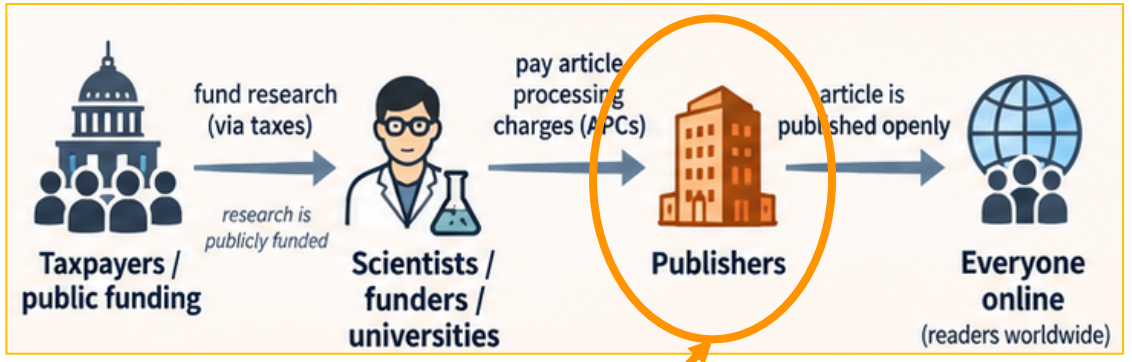
First things first: How does it work?

Traditional subscription model



Professional societies: ACM, IEEE, etc.
Commercial publishers: Springer, Wiley, Elsevier, etc.

Open access (APC) model



Professional societies: ACM, IEEE, etc. Financed by conferences / subscriptions.
Commercial publishers: Springer, Wiley, Elsevier, etc.
Non-commercial publishers: DFG, EU, etc.

Concept and editing by the author; illustration generated using AI (ChatGPT) v6.1.

The problems



Publish or Perish!

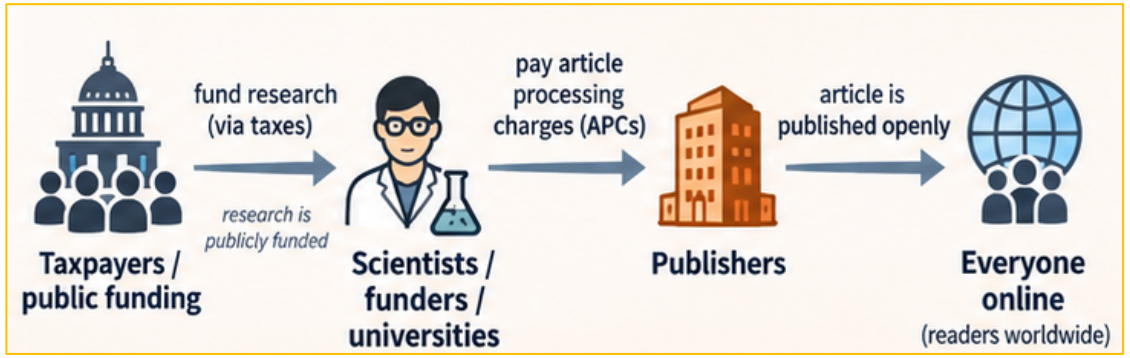
Traditional subscription model



Publisher Incentive:
Publish less, but really good articles

Problem:
Access locked behind paywalls
Gatekeeping and positive bias by editors/publishers

Open access (APC) model



Publisher Incentive:
Publish more, quality does not matter

Problem:
Authors excluded due to high fees
Quality in general

Concept and editing by the author; illustration generated using AI (ChatGPT) v6.1.

The Tower of Publishing



Concept and editing by the author; illustration generated using AI (ChatGPT) v6.1.

Different Metrics, Same Obsession

Most prolific authors in CS/EE

Rank	Scientist	Field	Publications
1	Lajos Hanzo	Wireless communications, EE	2663
2	Witold Pedrycz	AI, fuzzy systems, CS	2586
3	Mohamed-Slim Alouini	Wireless communications, EE	2117
4	H. Vincent Poor	Information theory, EE	1800
5	Frede Blaabjerg	Power electronics, EE	1800
6	Rajkumar Buyya	Cloud computing, CS	1449
7	Francisco Herrera	AI, machine learning, CS	1205
8	Athanasios V. Vasilakos	Networking, CS	1009
9	Yoshua Bengio	Deep learning, CS	856
10	José M. F. Moura	Signal processing, EE/CS	722

Data from research.com, 2026

Different Metrics, Same Obsession

Most prolific authors in CS/EE

Rank	Scientist	Field	Publications
1	Lajos Hanzo	Wireless communications, EE	2663
2	Witold Pedrycz	AI, fuzzy systems, CS	2586
3	Mohamed-Slim Alouini	Wireless communications, EE	2117
4	**H. Vincent Poor**	Information theory, EE	1800
5	**Frede Blaabjerg**	Power electronics, EE	1800
6	Rajkumar Buyya	Cloud computing, CS	1449
7	Francisco Herrera	AI, machine learning, CS	1205
8	Athanasios V. Vasilakos	Networking, CS	1009
9	**Yoshua Bengio**	Deep learning, CS	856
10	José M. F. Moura	Signal processing, EE/CS	722

Most cited authors in CS/EE

Rank	Scientist	Field	H-index (D-index)
1	**Yoshua Bengio**	AI, deep learning	224
2	Anil K. Jain	Pattern recognition	215
3	**Frede Blaabjerg**	Power electronics	207
4	Luc Van Gool	Computer vision	200
5	Andrew Zisserman	Computer vision	199
5	Edward H. Sargent	Optoelectronics	199
7	Michael I. Jordan	Machine learning	198
8	Jiawei Han	Data mining	197
9	Philip S. Yu	Data mining	194
10	**H. Vincent Poor**	Information theory	186

Data from research.com, 2026

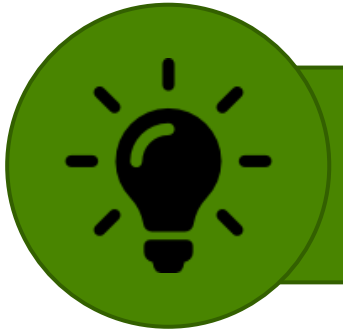
What matters really?

Scientist	Major Contribution	Recognitions	Publications	h-index
Tim Berners-Lee	World Wide Web	TIME 100 Century; Queen Elizabeth Prize 2013	128	58
Vint Cerf	TCP/IP and the Internet	Queen Elizabeth Prize 2013; ACM Turing Award 2004	275	21
Eric Fossum	CMOS image sensors	Queen Elizabeth Prize 2017; Draper Prize 2026	380	74
Bradford Parkinson	GPS and satellite navigation	Queen Elizabeth Prize 2019	217	43
Martin Green	High-efficiency silicon solar cells	Queen Elizabeth Prize 2023	928	156
Geoffrey Hinton	Deep learning	ACM Turing Award 2018; Nobel Prize in Physics 2024	435	173
Yann LeCun	Convolutional neural networks	ACM Turing Award 2018; Queen Elizabeth Prize 2025	385	137
Fei-Fei Li	ImageNet, computer vision	Queen Elizabeth Prize 2025	409	139
Yoshua Bengio	Deep learning	ACM Turing Award 2018; Queen Elizabeth Prize 2025	856	224

Data from research.com

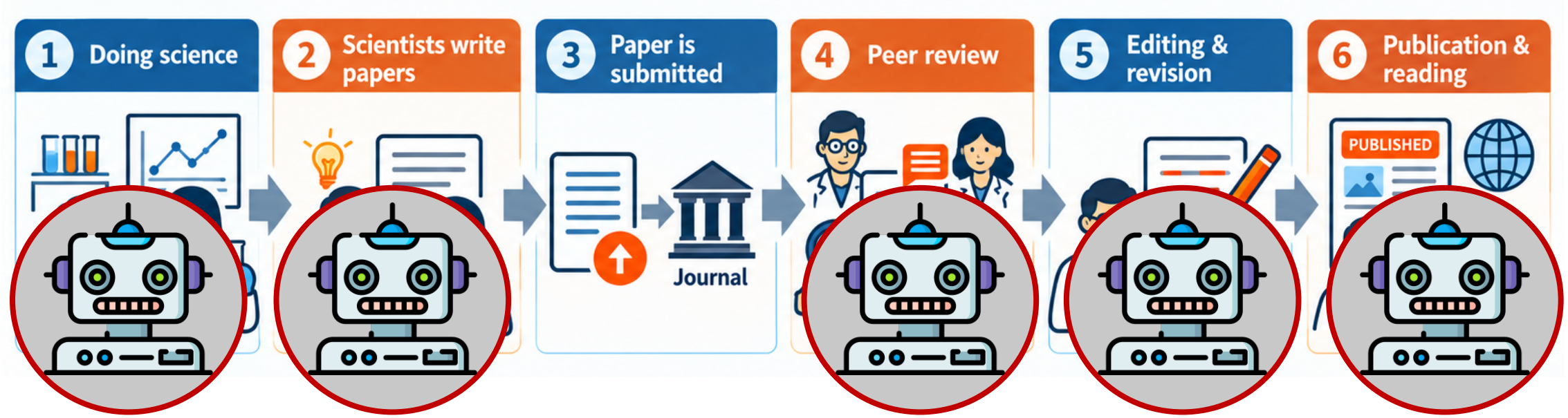
The Grand Challenges

- How to identify promising young researchers?
- How to measure the work quality of researchers?
- (Very) delayed visible impact of innovations.
- Does only own research count? What about teaching, supervision, mentoring?



**New knowledge matters,
not the number of publications it produces.**

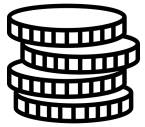
How do LLMs fit here?



! Publication system is crumbling

Concept and editing by the author; illustration generated using AI (ChatGPT) v6.1.

A Unique Opportunity



Re-evaluate what matters in the different disciplines

- CS/EE: Demonstrators, code, datasets, schematics, prototypes, (mathematical) models



Publish what matters

- Community-driven discipline-specific repositories, free to access.
- Open peer review



Back-focus on personal evaluation / conferences / discussions



„Science advances one funeral at a time.“

Max Planck