Exploring the open access landscape in Engineering

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PSYCHOLOGICAL SCIENCE

Electronic Publishing

SCHOLARLY SKYWRITING AND THE PREPUBLICATION CONTINUUM OF SCIENTIFIC INQUIRY

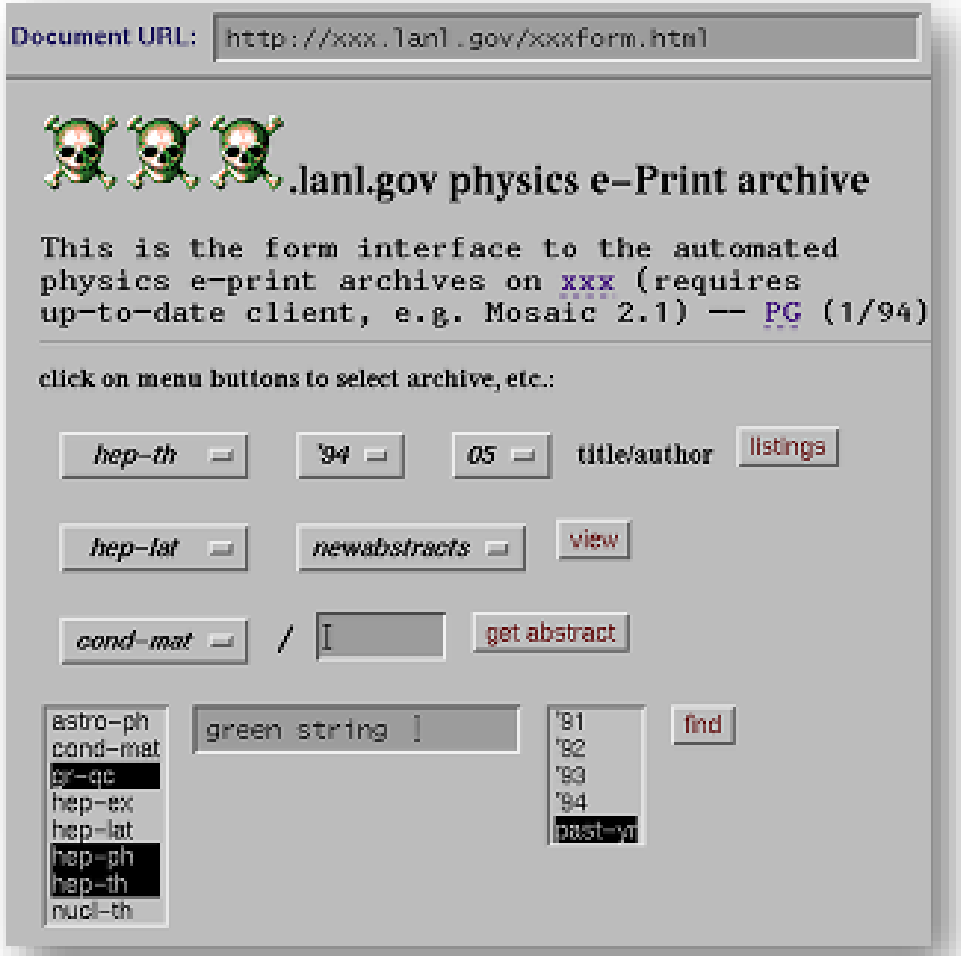
November 1990

Stevan Harnad
Princeton University

William Gardner's proposal (1990) is fine, as far as it goes (though he seems to have missed some of the relevant back-

theories—clearly consists of activities that profit from peer feedback. For most investigators the formal submission of a

pating in research symposia, to circulating preprints for peer criticism before formal submission to an archival journal



The Open Archives initiative aimed at the further promotion of author self-archived solutions
Paul Ginsparg, Rick Luce, Herbert Van de Sompel - Los Alamos National Laboratory - July 1999

With the support of the Council on Library and Information Resources , the Digital Library Federation, the Scholarly Publishing & Academic Resources Coalition, the Association of Research Libraries and the Los Alamos National Laboratory.

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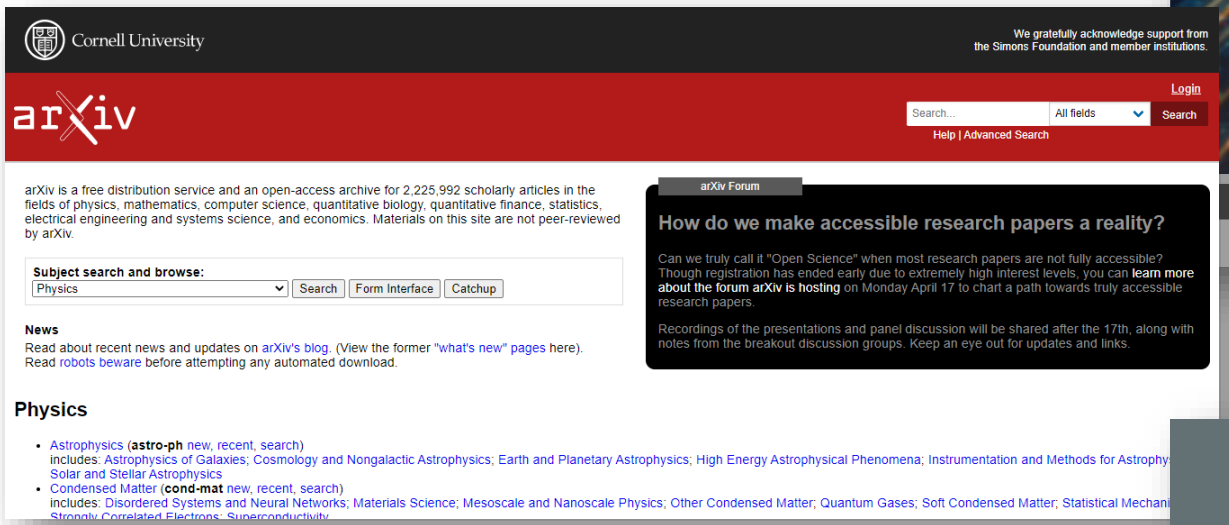
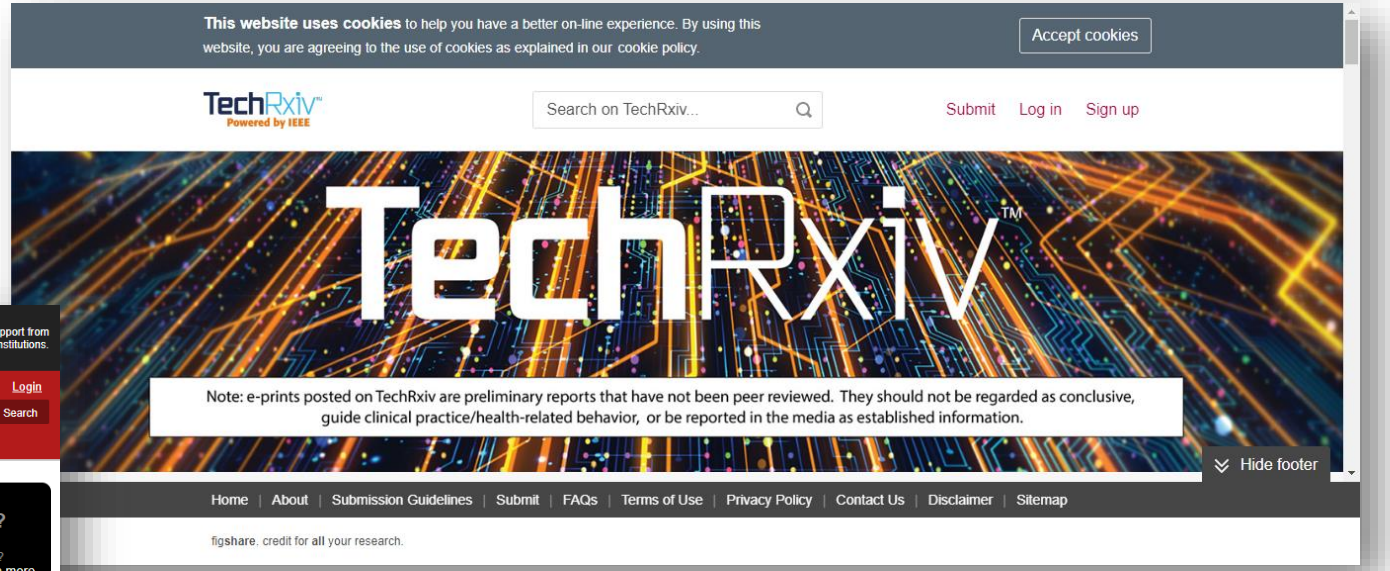
The purpose of this call is the mobilization of a core group to work towards achieving **a universal service for author self-archived scholarly literature**.

http://www.openarchives.org/meetings/SantaFe1999/ups-invitation-ori.htm



(1990) https://arxiv.org/

arXiv has 2,225,992 scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics.



(2020) https://www.techrxiv.org/

https://engrxiv.org/

Name	Web of Science Documents	% All OA Documents	% All Non-OA Documents
Global Baseline	16985960	42.57	57.43
Space Science	86631	81.14	18.86
Microbiology	149030	79.46	20.54
Molecular Biology & Genetics	323417	67.21	32.79
Immunology	242593	61.12	38.88
Mathematics	280951	60.22	39.78
Environment/Ecology	529892	54.08	45.92
Biology & Biochemistry	544851	54.07	45.93
Physics	573096	50.98	49.02
Geosciences	348687	50.26	49.74
Plant & Animal Science	512397	49.79	50.21
Neuroscience & Behavior	463527	45.71	54.29
Agricultural Sciences	339515	45.59	54.41
Clinical Medicine	3201569	45.03	54.97
Pharmacology & Toxicology	347979	44.18	55.82
Psychiatry/Psychology	392070	43.92	56.08
Multidisciplinary	42449	42.49	57.51
Social Sciences, general	884280	38.33	61.67
Economics & Business	211061	38.08	61.92
Engineering	**1212626**	**37.88**	**62.12**
Computer Science	317994	37.64	62.36
Chemistry	1148416	36.92	63.08
Materials Science	741075	32.5	67.5

How much of Engineering literature is open access?

Dataset: InCites Dataset + ESCI

Schema: Essential Science Indicators

Time Period: [2018 - 2022]

Name	No. of papers	% All OA Documents	% Non-Open Access Documents
Global Baseline	16985960	42.57	57.43
ENGINEERING, ELECTRICAL & ELECTRONIC	954356	29.1	70.9
MATERIALS SCIENCE, MULTIDISCIPLINARY	869281	40.35	59.65
ENVIRONMENTAL SCIENCES	601541	52.99	47.01
CHEMISTRY, MULTIDISCIPLINARY	588861	51.29	48.71
ONCOLOGY	566933	50.58	49.42
PHYSICS, APPLIED	525109	44.68	55.32
BIOCHEMISTRY & MOLECULAR BIOLOGY	502653	56.91	43.09
CHEMISTRY, PHYSICAL	445391	29.09	70.91
SURGERY	404740	37.34	62.66
PHARMACOLOGY & PHARMACY	382565	45.73	54.27
PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH	381332	62.21	37.79
COMPUTER SCIENCE, INFORMATION SYSTEMS	380396	44.99	55.01
NEUROSCIENCES	373919	50.79	49.21
CLINICAL NEUROLOGY	372116	36.69	63.31
ENERGY & FUELS	361929	33.15	66.85
COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE	355043	27.05	72.95
COMPUTER SCIENCE, THEORY & METHODS	336321	25.11	74.89
CARDIAC & CARDIOVASCULAR SYSTEMS	323547	47.37	52.63

Proportion of open access (OA) papers in different *Web of Science* research areas

(16,985,021 documents, published during 2018-2022)

Data as seen in *Incites* – 22 March 2023

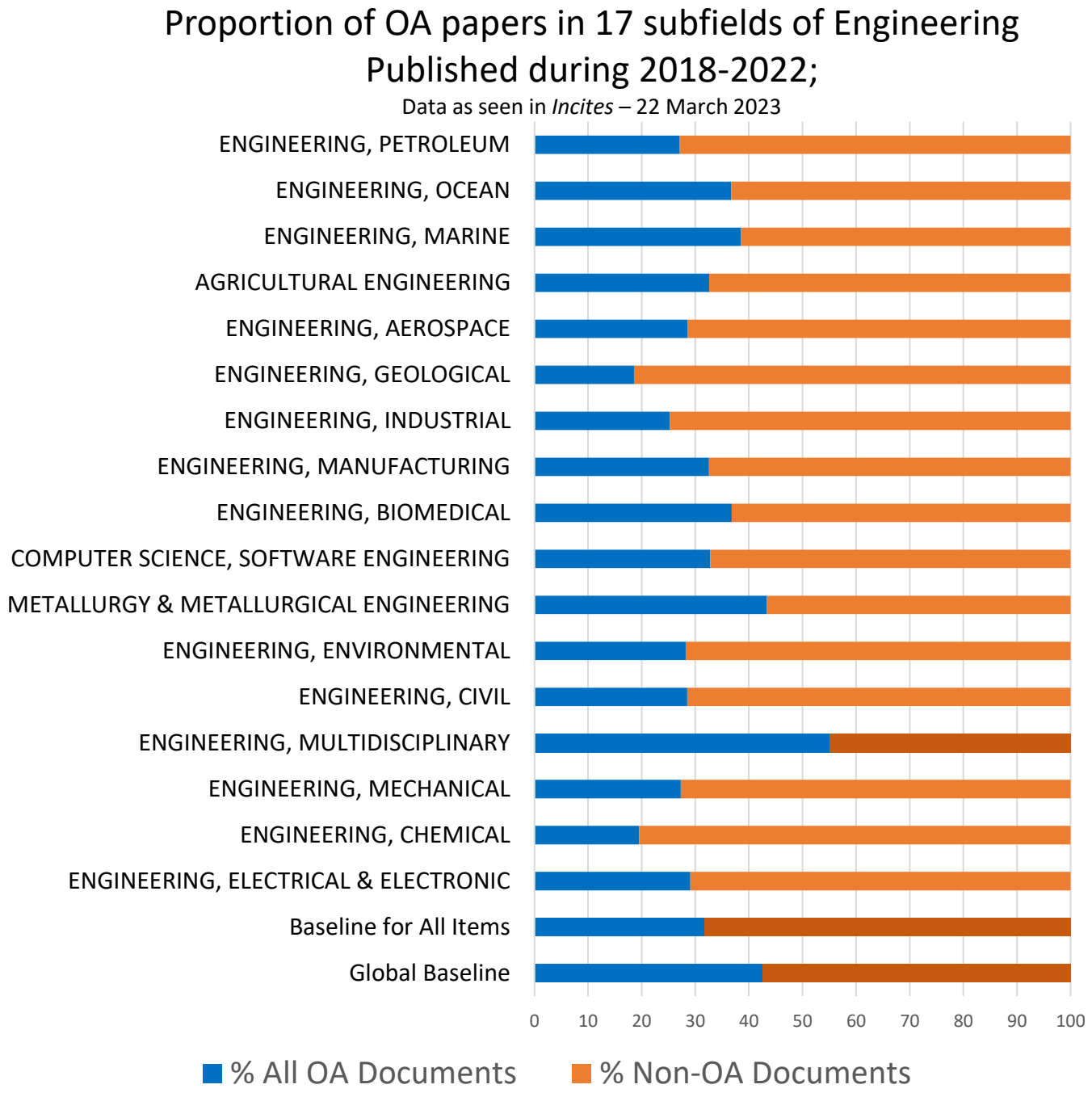
Name	No. of papers	% All OA Documents	% Non-OA Documents
Global Baseline	16985960	42.57	57.43
PHYSICS, PARTICLES & FIELDS	73746	86.91	13.09
ASTRONOMY & ASTROPHYSICS	130094	80.36	19.64
ANDROLOGY	5612	77.78	22.22
MICROBIOLOGY	188432	75.52	24.48
VIROLOGY	45128	72.87	27.13
PRIMARY HEALTH CARE	22004	71.19	28.81
INFECTIOUS DISEASES	148686	69.46	30.54
PARASITOLOGY	36732	68.91	31.09
PSYCHOLOGY, MATHEMATICAL	4325	67.1	32.9
NEUROIMAGING	19269	67.09	32.91
TROPICAL MEDICINE	34054	63.83	36.17
PHYSICS, NUCLEAR	32695	63.25	36.75
PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH	381332	62.21	37.79
HEALTH CARE SCIENCES & SERVICES	161142	62.15	37.85
DEVELOPMENTAL BIOLOGY	32051	62.04	37.96
AGRICULTURE, DAIRY & ANIMAL SCIENCE	74241	61.91	38.09
ENVIRONMENTAL STUDIES	149936	61.56	38.44
PHYSICS, MULTIDISCIPLINARY	163192	60.64	39.36
CELL BIOLOGY	256313	60.2	39.8

More than 50% of the papers is OA in 51 research areas…

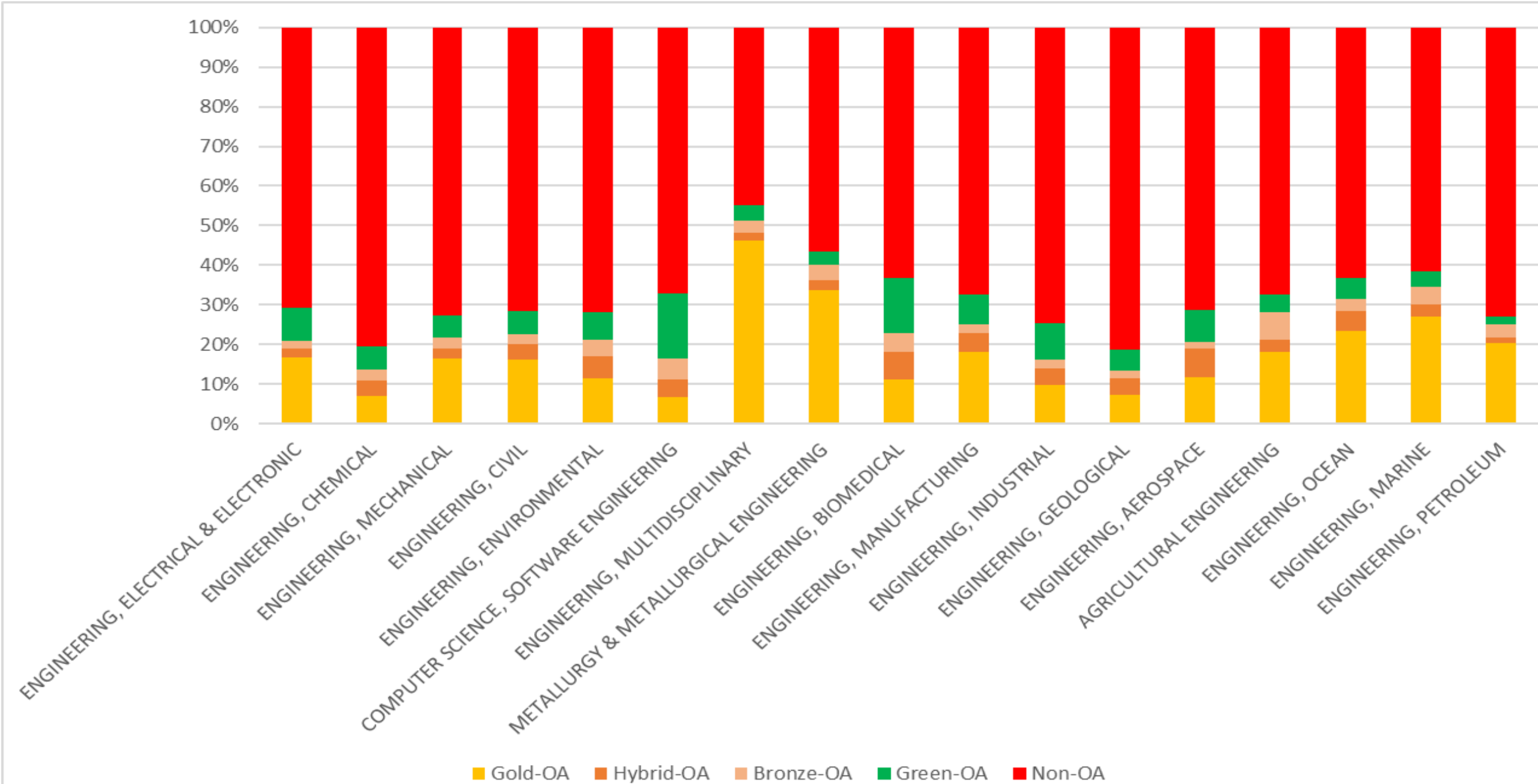
(Papers published during 2018-2022)

Data as seen in *Incites* – 22 March 2023

Name	Web of Science Documents
Global Baseline	16985960
Baseline for All Items	2467038
ENGINEERING, ELECTRICAL & ELECTRONIC	954356
ENGINEERING, CHEMICAL	267364
ENGINEERING, MECHANICAL	210558
ENGINEERING, MULTIDISCIPLINARY	197404
ENGINEERING, CIVIL	194246
ENGINEERING, ENVIRONMENTAL	158478
METALLURGY & METALLURGICAL ENGINEERING	153860
COMPUTER SCIENCE, SOFTWARE ENGINEERING	148703
ENGINEERING, BIOMEDICAL	123027
ENGINEERING, MANUFACTURING	77637
ENGINEERING, INDUSTRIAL	66424
ENGINEERING, GEOLOGICAL	49662
ENGINEERING, AEROSPACE	46093
AGRICULTURAL ENGINEERING	27364
ENGINEERING, MARINE	25106
ENGINEERING, OCEAN	24526
ENGINEERING, PETROLEUM	19383



Web of Science*:** 2018-2022 17 Fields related to Engineering **OA flavors** Data as seen in ***Incites



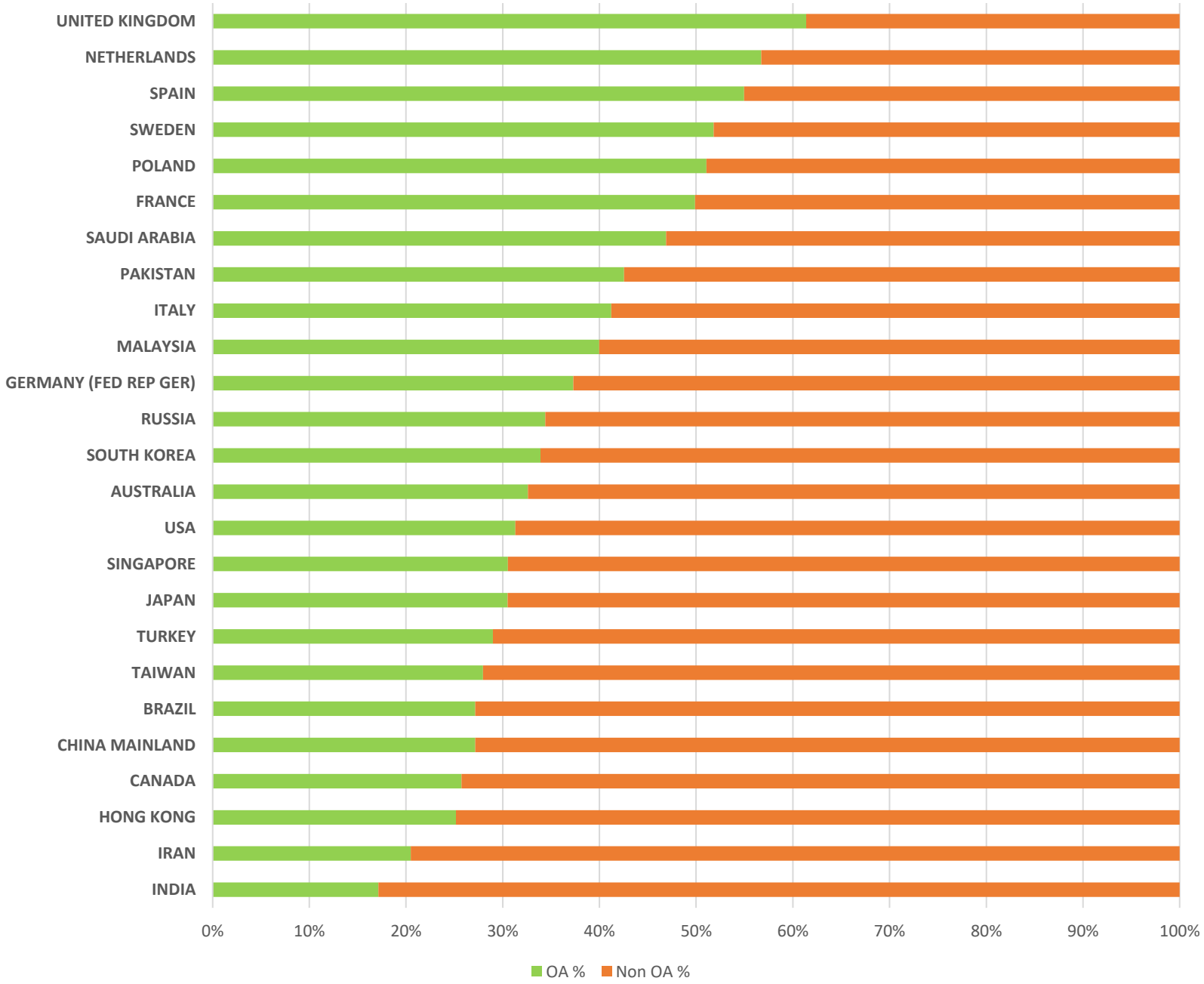
11,174 publication sources (2,467,038 documents)

1,886 journals (1,757,003 documents)
8,210 conference proceedings (686,955 documents)
1,588 books (23,080 documents)

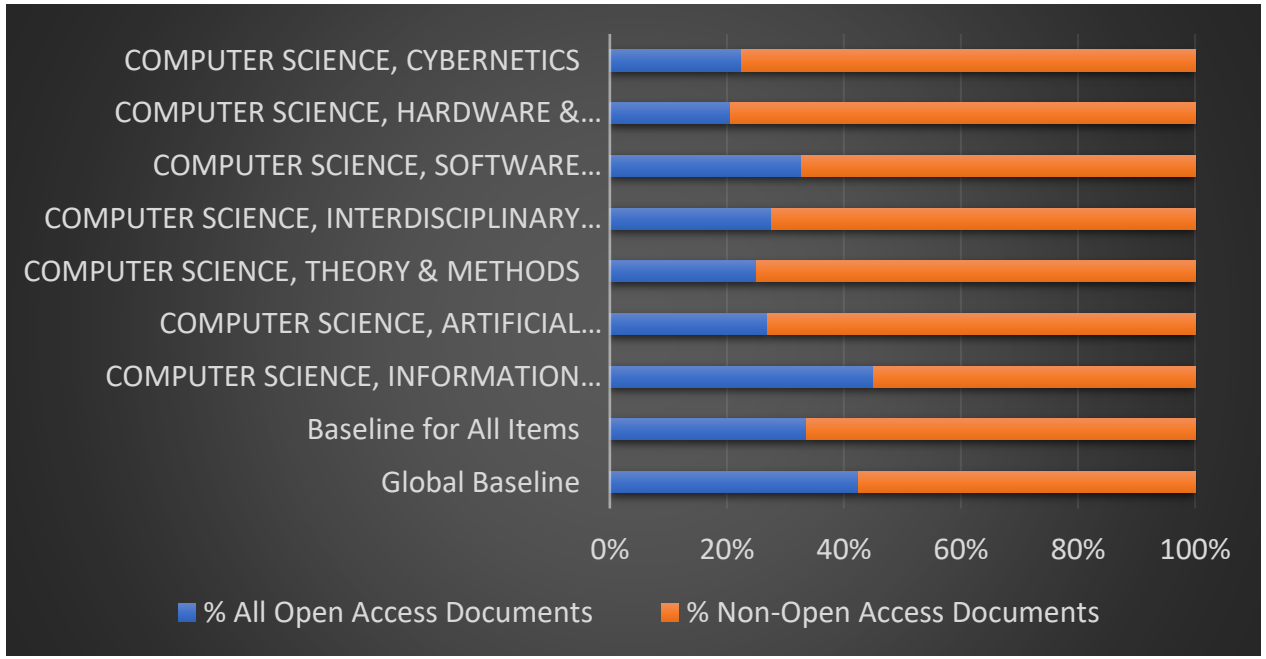
Rapid Growth of Mega OA Journals

Name	Paper	Country
Baseline for All Items	1757003	n/a
IEEE ACCESS	61845	USA
APPLIED SCIENCES-BASEL	42375	SWITZERL
SENSORS	35843	SWITZERL
MATERIALS	29640	SWITZERL
JOURNAL OF CLEANER PRODUCTION	22869	USA
JOURNAL OF ALLOYS AND COMPOUNDS	22807	SWITZERL
CHEMICAL ENGINEERING JOURNAL	19693	SWITZERL
CONSTRUCTION AND BUILDING MATERIALS	16917	ENGLAND
FUEL	12221	ENGLAND
ELECTRONICS	11620	SWITZERL
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTR	11175	NETHERLA
JOURNAL OF HAZARDOUS MATERIALS	10423	NETHERLA
MATHEMATICAL PROBLEMS IN ENGINEERING	10161	USA

Country	No. of papers
CHINA MAINLAND	814730
USA	363660
INDIA	165331
UNITED KINGDOM	118179
GERMANY (FED REP GER)	111441
SOUTH KOREA	97945
JAPAN	95673
ITALY	85428
CANADA	81467
FRANCE	74707
IRAN	72073
AUSTRALIA	70477
RUSSIA	65327
SPAIN	61262
BRAZIL	48264
POLAND	45776
TURKEY	43154
TAIWAN	42151
MALAYSIA	34921
SAUDI ARABIA	33583
NETHERLANDS	32250
HONG KONG	31083
SINGAPORE	27422
SWEDEN	26755
PAKISTAN	25657

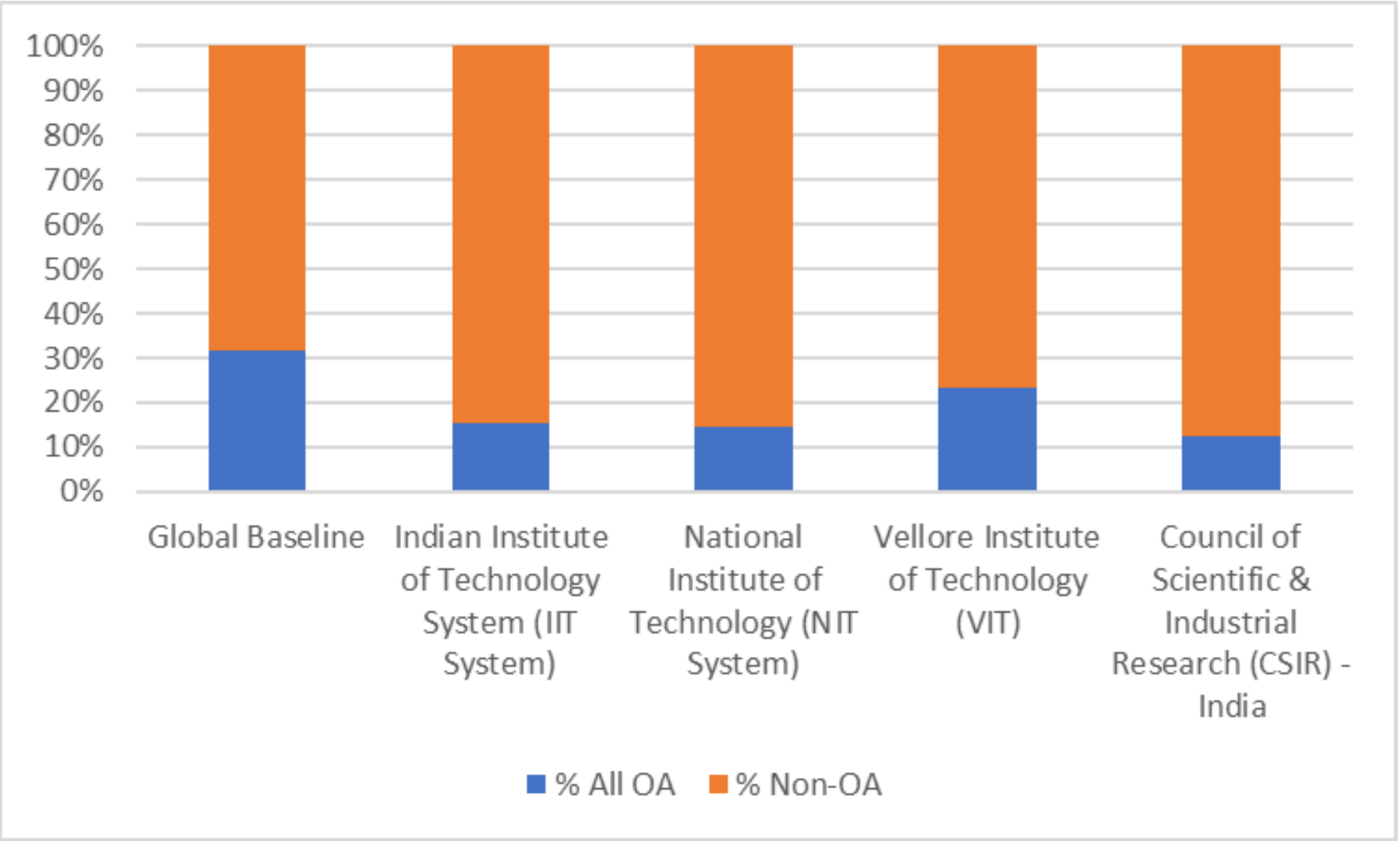


Name	Web of Science Documents
Global Baseline	16985960
Baseline for All Items	1076178
COMPUTER SCIENCE, INFORMATION SYSTEMS	380396
COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE	355043
COMPUTER SCIENCE, THEORY & METHODS	336321
COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIC	223121
COMPUTER SCIENCE, SOFTWARE ENGINEERING	148703
COMPUTER SCIENCE, HARDWARE & ARCHITECTURE	94922
COMPUTER SCIENCE, CYBERNETICS	48172

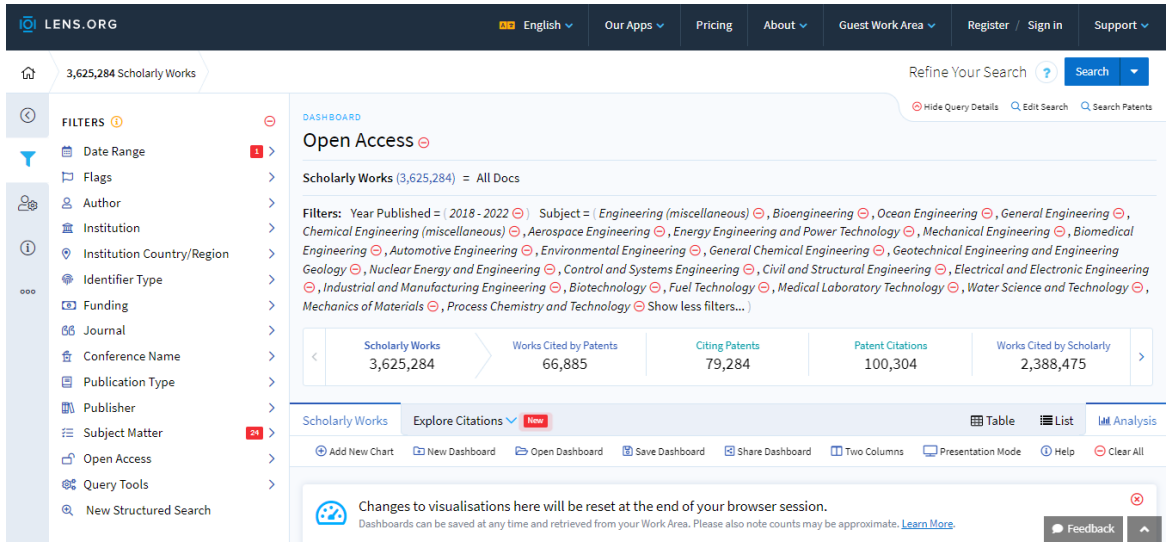


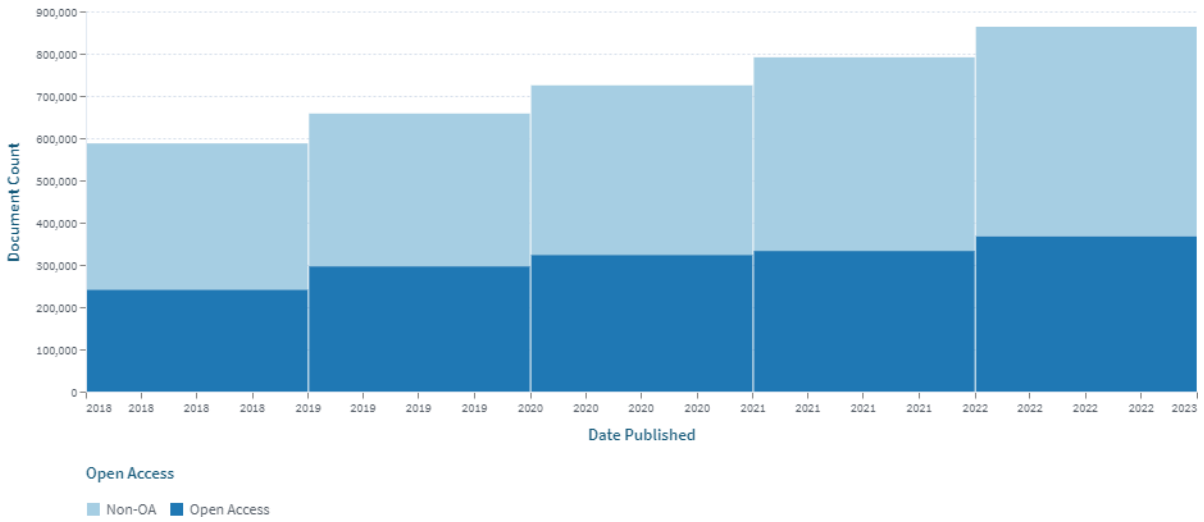
Dataset: InCites Dataset + ESCI
Schema: Web of Science
Time Period: [2018, 2022]

OA in Indian Institutions



Research Area: [COMPUTER SCIENCE, INFORMATION SYSTEMS, COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE, COMPUTER SCIENCE, HARDWARE & ARCHITECTURE, COMPUTER SCIENCE, THEORY & METHODS, COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS, COMPUTER SCIENCE, SOFTWARE ENGINEERING, ENGINEERING, MULTIDISCIPLINARY, ENGINEERING, AEROSPACE, ENGINEERING, ENVIRONMENTAL, ENGINEERING, MECHANICAL, ENGINEERING, INDUSTRIAL, ENGINEERING, BIOMEDICAL, ENGINEERING, MARINE, ENGINEERING, CHEMICAL, ENGINEERING, PETROLEUM, ENGINEERING, ELECTRICAL & ELECTRONIC, ENGINEERING, OCEAN, ENGINEERING, MANUFACTURING, ENGINEERING, CIVIL, ENGINEERING, GEOLOGICAL, AGRICULTURAL ENGINEERING, METALLURGY & METALLURGICAL ENGINEERING, COMPUTER SCIENCE, CYBERNETICS] *INCITES* 2018-2022





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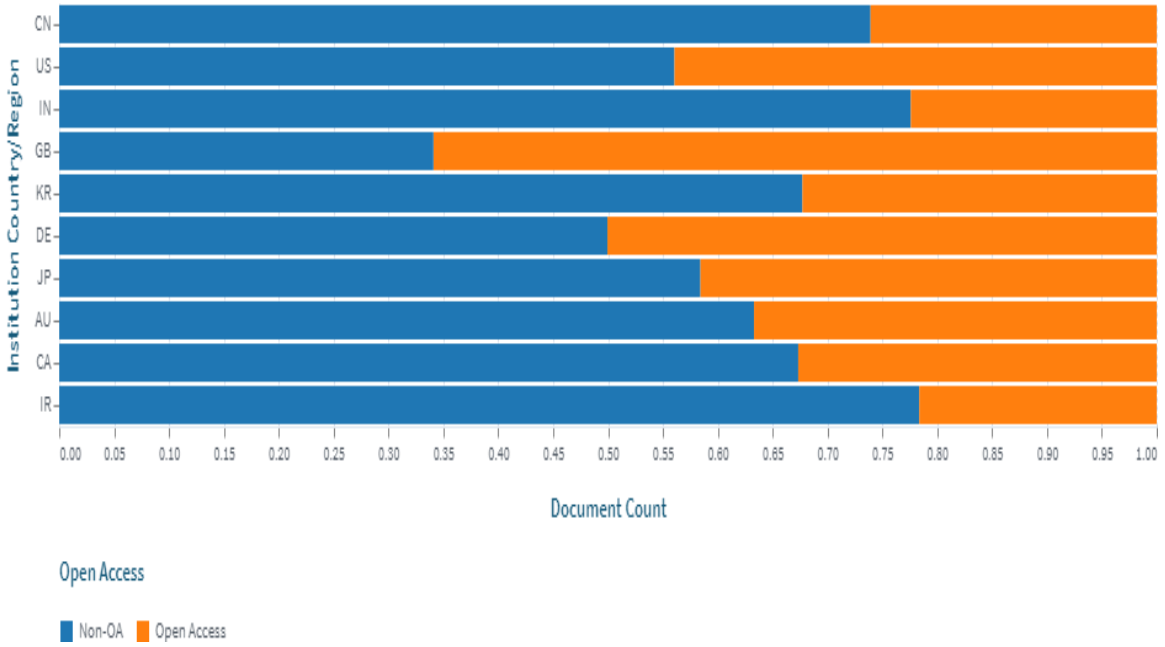

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United Kingdom (124,869)
Korea, Republic of (99,674)
Germany (99,008)
Japan (92,232)
Australia (76,757)
Canada (76,498)
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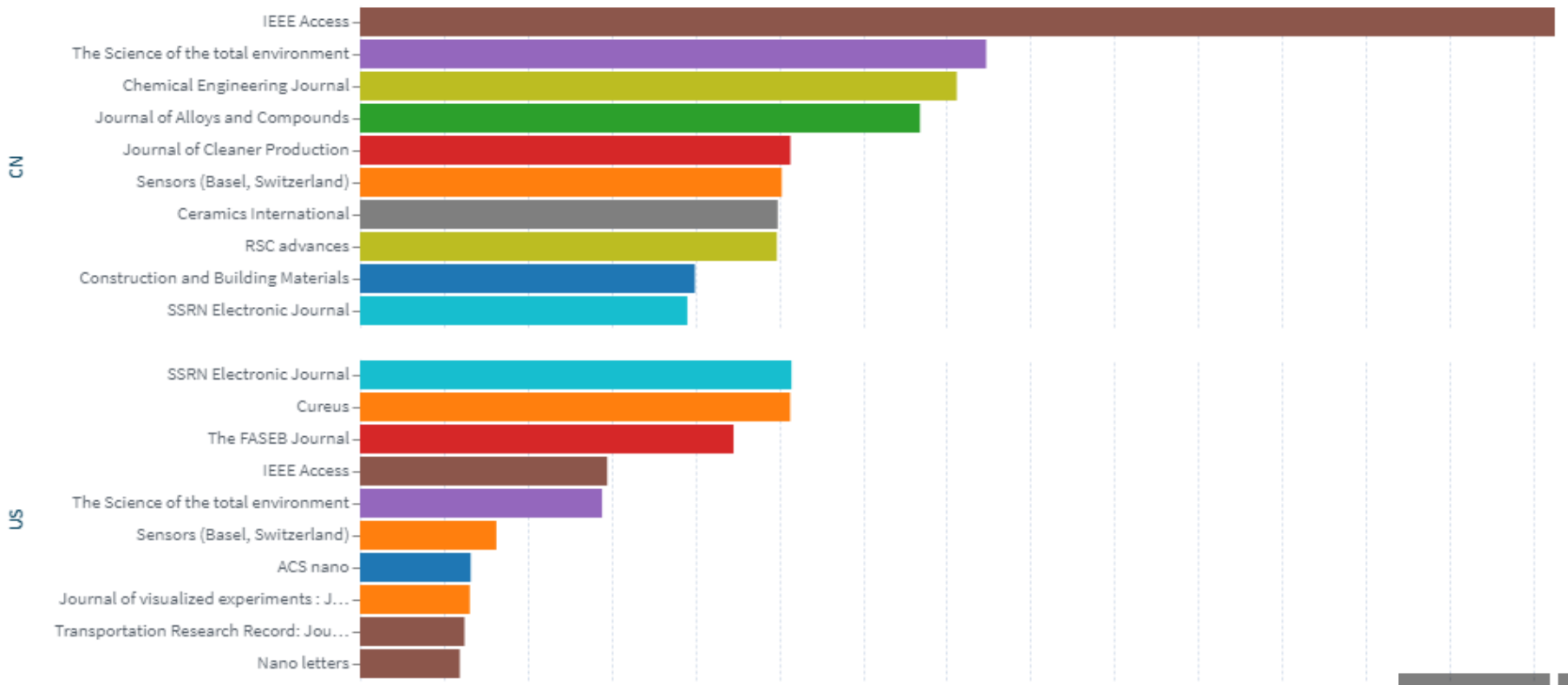
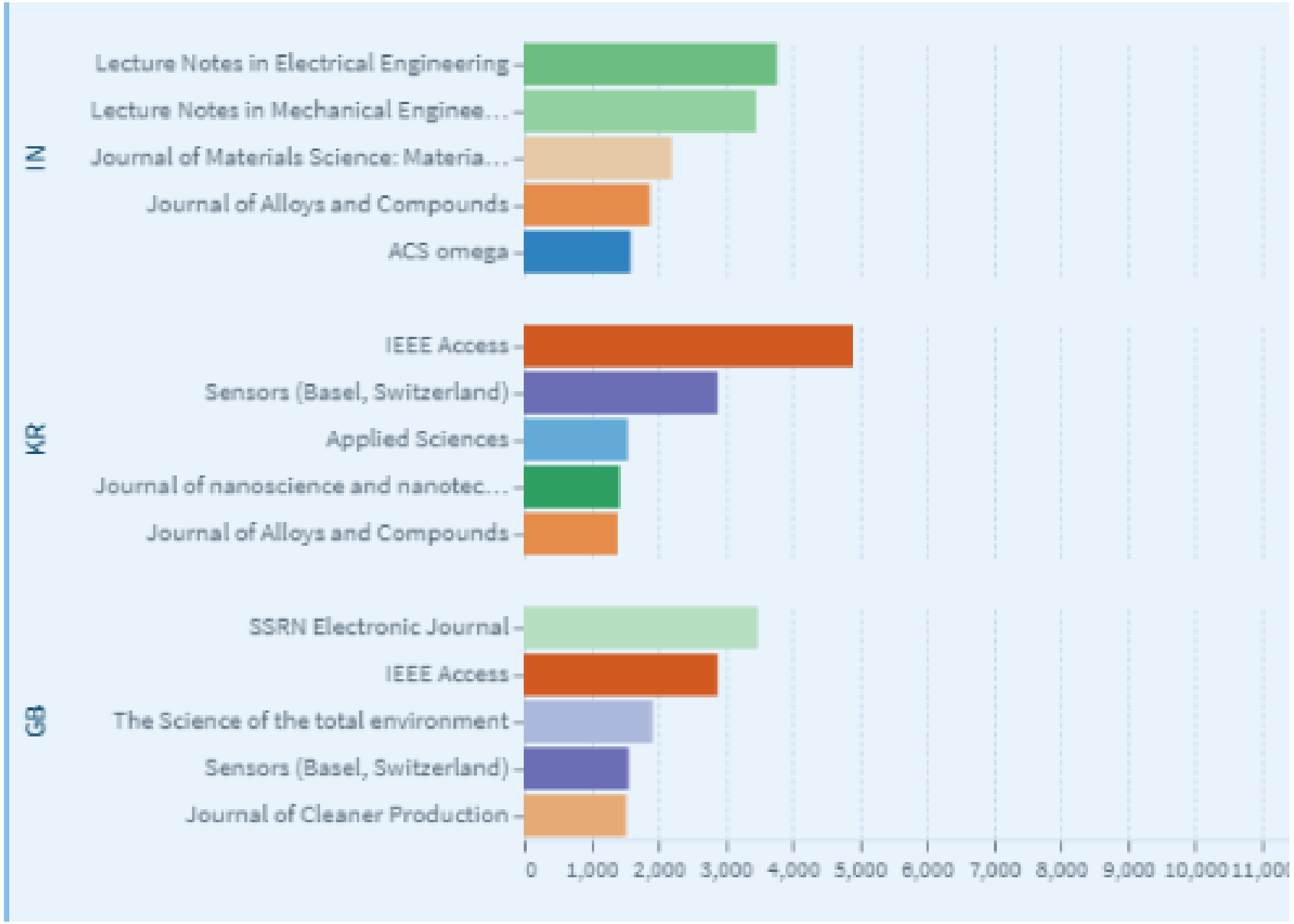
Proportion of Open Access Scholarly Works by Institution Country/Region





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AUGUST 25, 2022

OSTP Issues Guidance to Make Federally Funded Research Freely Available Without Delay

OSTP › BRIEFING ROOM › PRESS RELEASES

Today, the White House Office of Science and Technology Policy (OSTP) updated U.S. policy guidance to make the results of taxpayer-supported research immediately available to the American public at no cost. In a memorandum ↗ to federal departments and agencies, Dr. Alondra Nelson, the head of OSTP, delivered guidance for agencies to update their public access policies as soon as possible to make publications and research funded by

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Wireless Networks (Cellular Systems, Ad-Hoc Networks, Sensor Networks, TCP over Wireless, Power Control)

- Avinash Mohan, Aditya Gopalan, and Anurag Kumar, "Reduced-State, Optimal Scheduling for Decentralized Medium Access Control of a Class of Wireless Networks," to appear in IEEE/ACM Transactions on Networking. download pdf file
- K. P. Naveen and Anurag Kumar, "Coverage in One-Dimensional Wireless Networks with Infrastructe Nodes and Relay Extensions," to appear in IEEE/ACM Transactions on Networking, download pdf file
- Arpan Chattopadhyay, Avishek Ghosh, and Anurag Kumar,

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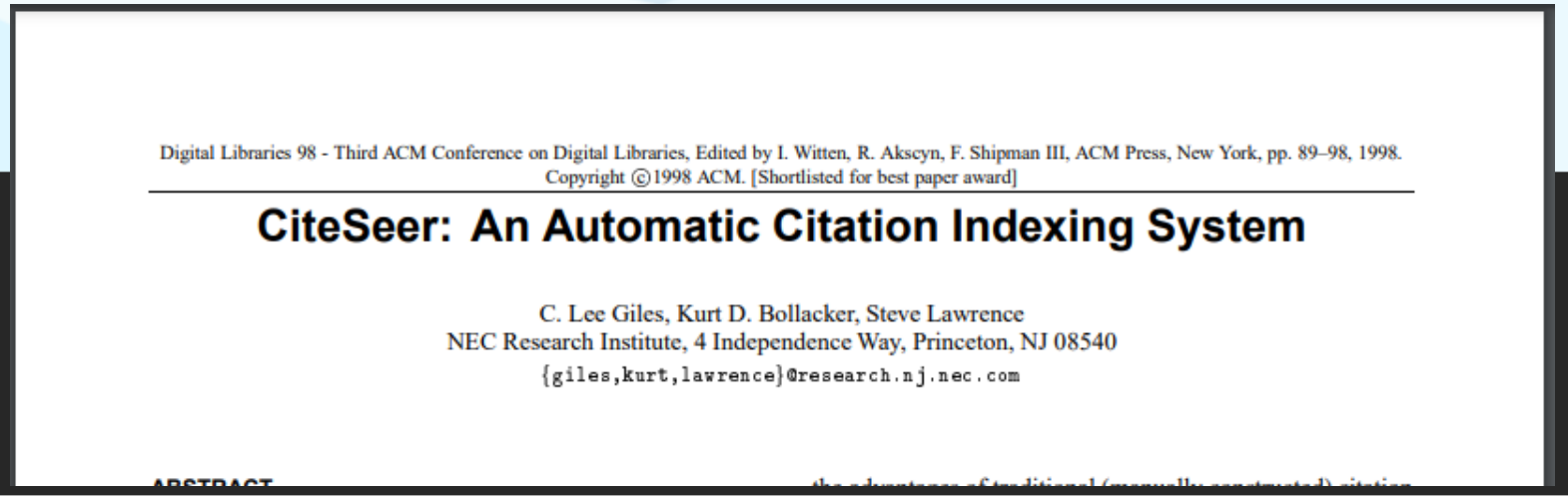

Digital Libraries 98 - Third ACM Conference on Digital Libraries, Edited by I. Witten, R. Akscyn, F. Shipman III, ACM Press, New York, pp. 89–98, 1998.

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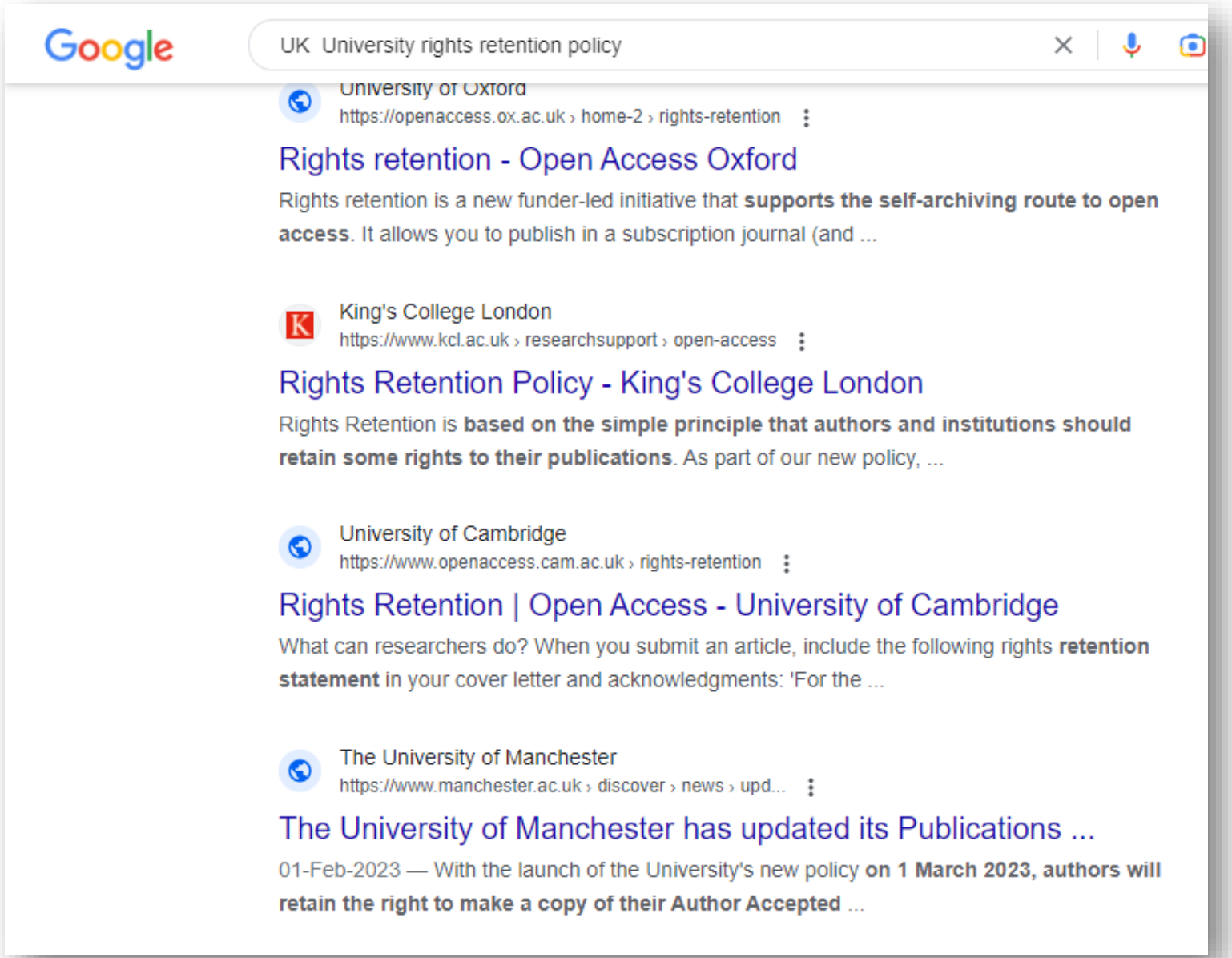
{giles,kurt,lawrence}@research.nj.nec.com

ABSTRACT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The MIT Press announces new initiative to flip existing subscription-based journals to a diamond OA publishing model

2 February 2023

In keeping with its mission and longstanding commitment to increase access to scholarship, the **MIT Press** is pleased to announce shift+OPEN. This new initiative is designed to flip existing subscription-based journals to a diamond open access publishing model. Shift+OPEN is generously supported by the **Arcadia Fund.**

The MIT Press welcomes submissions for English-language journals in any field and from any part of the world. Intended for existing titles, shift+OPEN will cover the expenses of transitioning a journal to open access model for a three-year term, provide the Press's full suite of publishing services, and support the development of a sustainable funding model for the future. The deadline for applications

UKSG eNews 533

Editorial

From a bare room t
for the Times Highe
than 2 years

UKSG news

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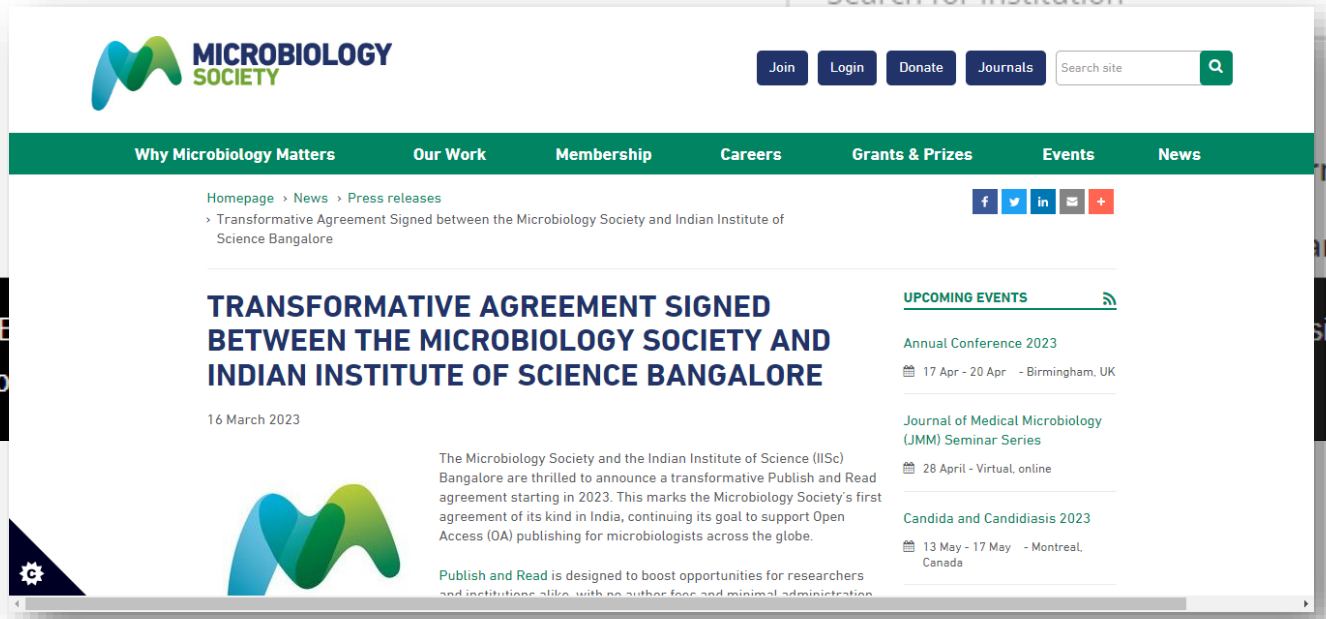

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What librarians should do to support OA to engineering research

- Understand the nuances of OA and its flavors
- Create awareness among researchers
- Encourage researchers to use preprint archives
- Set up and populate institutional repositories
  - Help researchers make all versions of scientific records that they create accessible to all possible users through personal webpages and institutional repositories
- Be a catalyst for institutional rights retention policies
- Avoid the so-called transformative agreements (Read and Publish) with publishers
- Support journals that do not charge authors or readers (Diamond)

- **Thanks**