

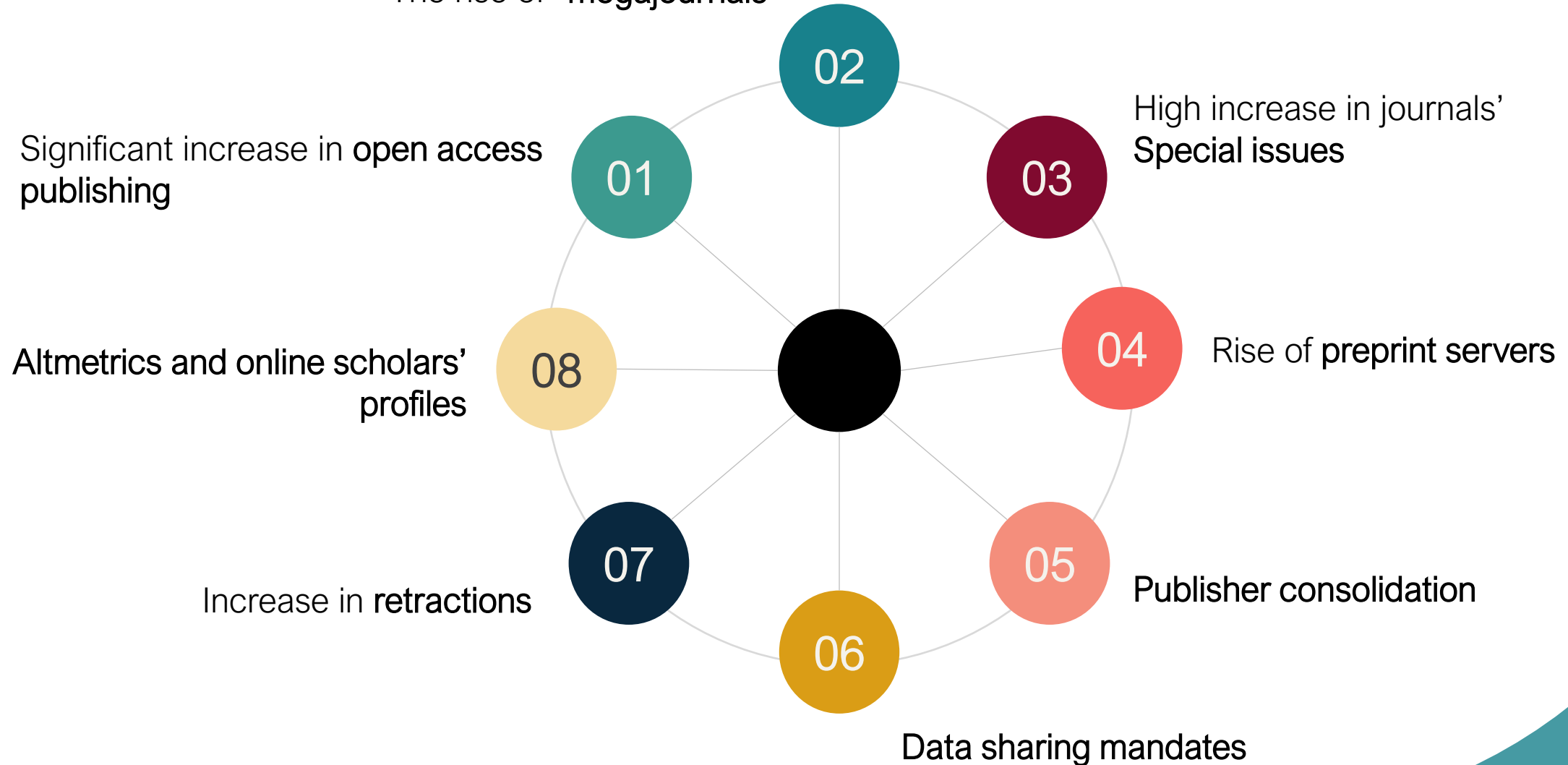


RESEARCH ETHICS CHALLENGES IN AN EVOLVING PUBLICATION LANDSCAPE

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BUCHAREST UNIVERSITY OF ECONOMIC STUDIES,
ROMANIA

An evolving publication landscape

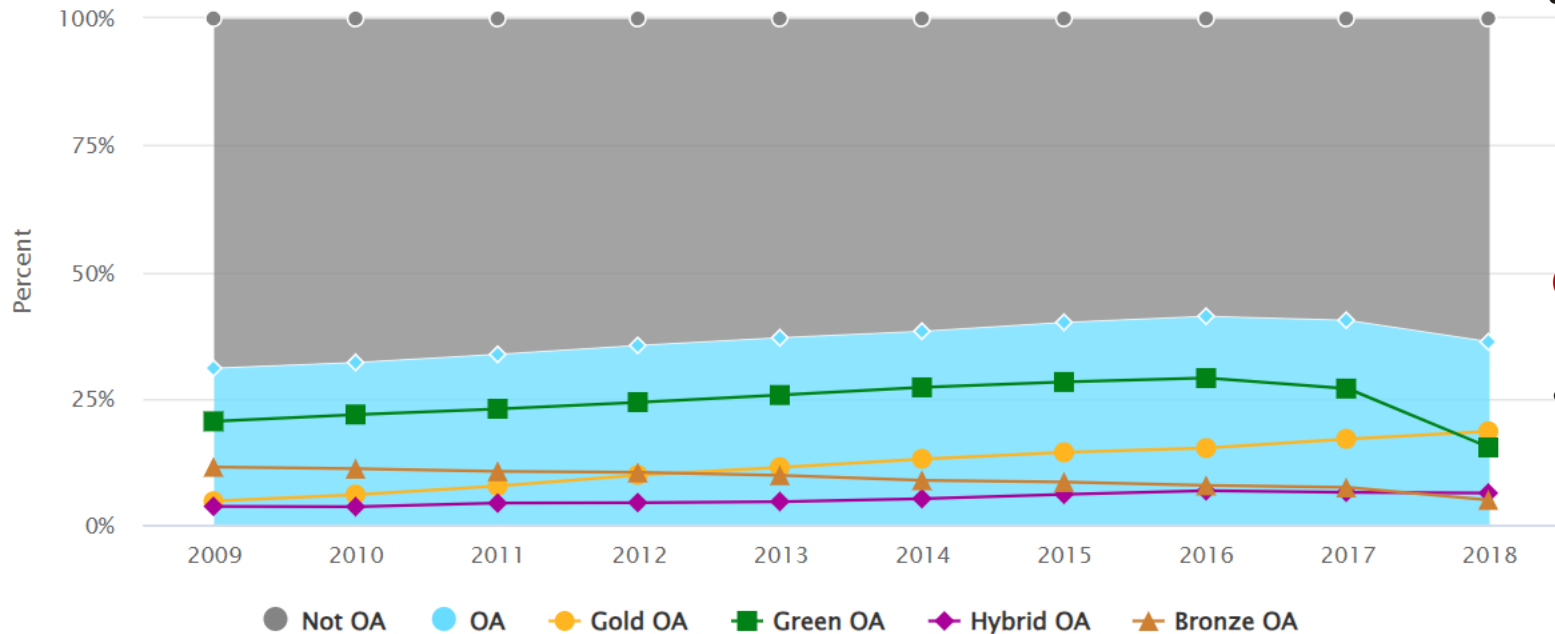
The rise of “megajournals”



The Open access market

Percentage of Open Access publications in total publications, 2009–2018

Source: Consortium's own analysis of Scopus and Unpaywall databases



Source: European Commission

Projections

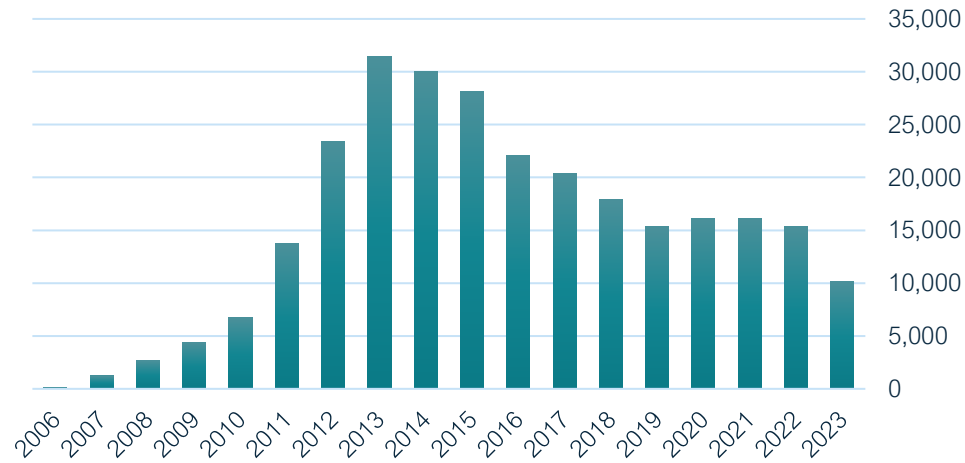
- Open access articles will hit 3 million by 2025, capturing 44% of total article volume (Hook, 2018).

Global distribution

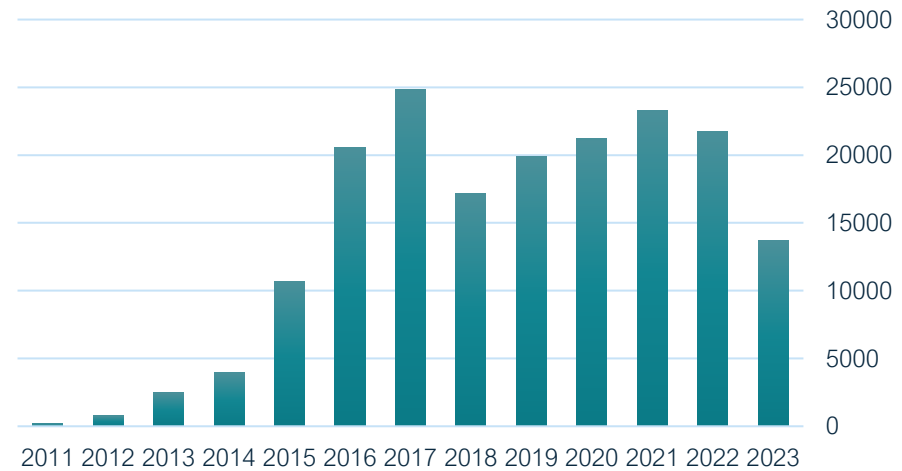
- Latin America has among the highest open access publication rates (nearly 70%), followed by Asia (32%) and Europe/North America (25%) in 2018 (Johnson, 2021)

The rise of “mega-journals”

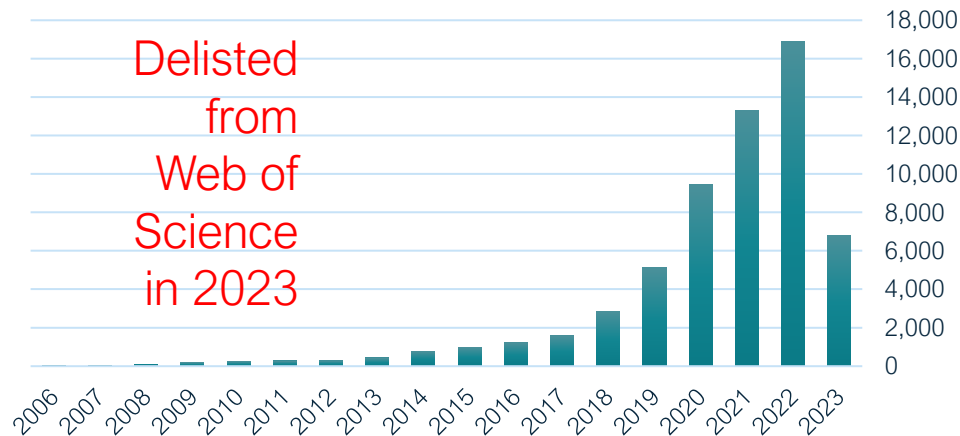
PLOS ONE (Public Library of Science)



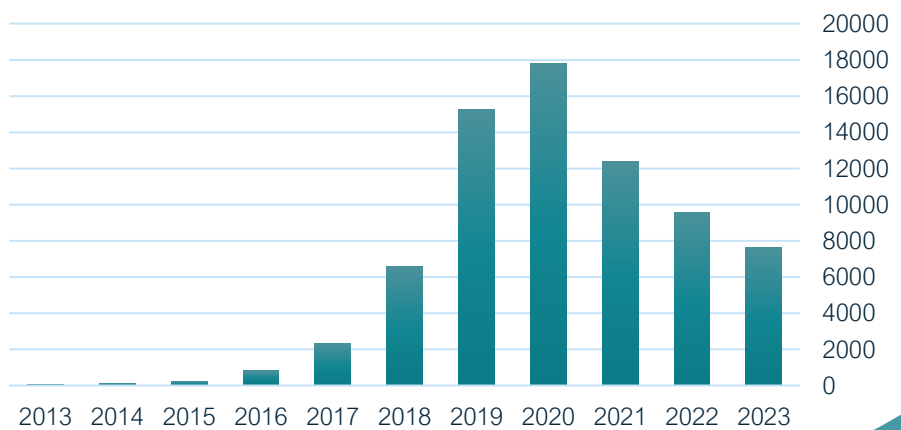
Scientific Reports (Nature Research)



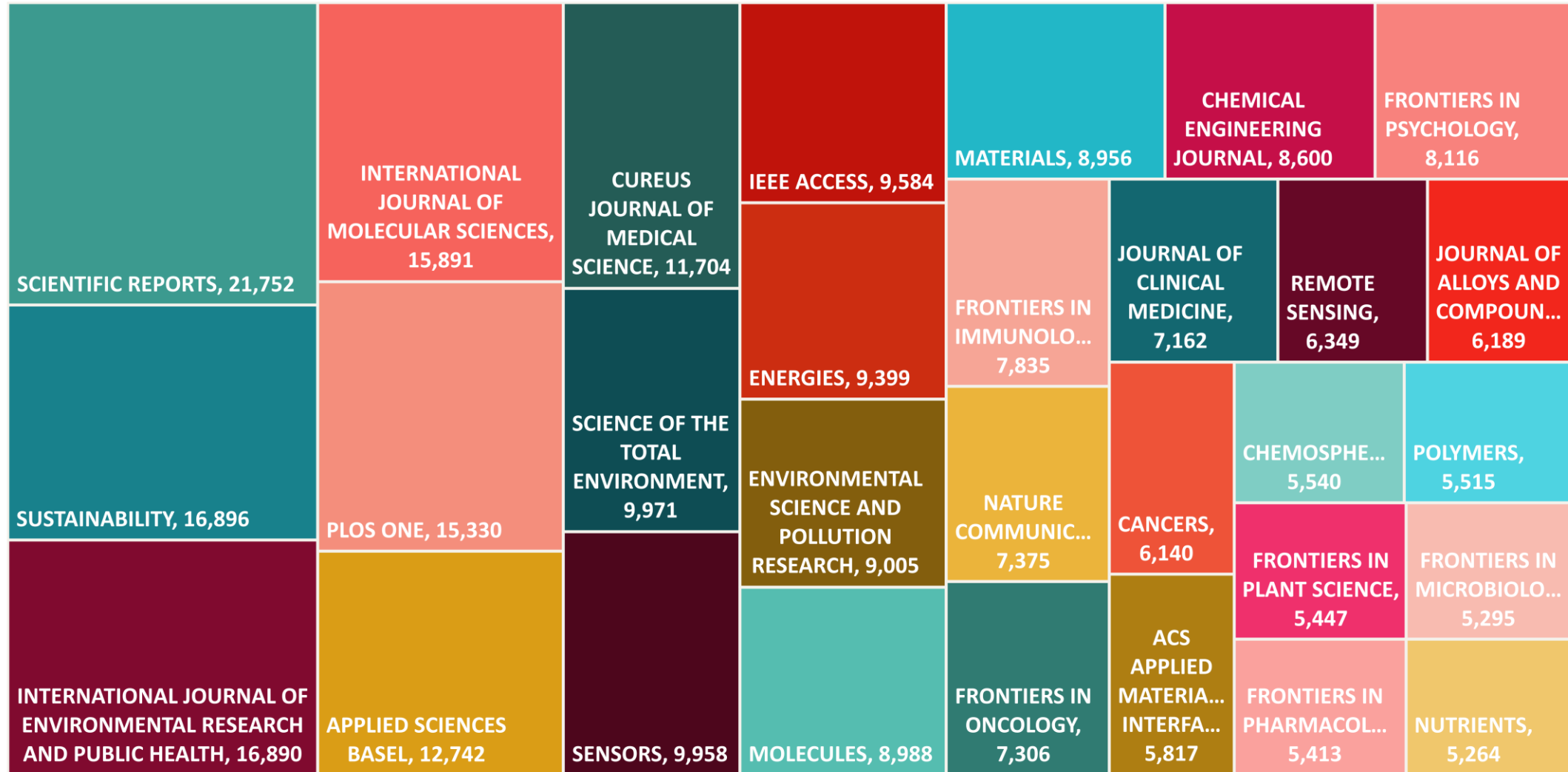
International Journal of Environmental Research and Public Health (MDPI)



IEEE Access (Institute of Electrical and Electronics Engineers)



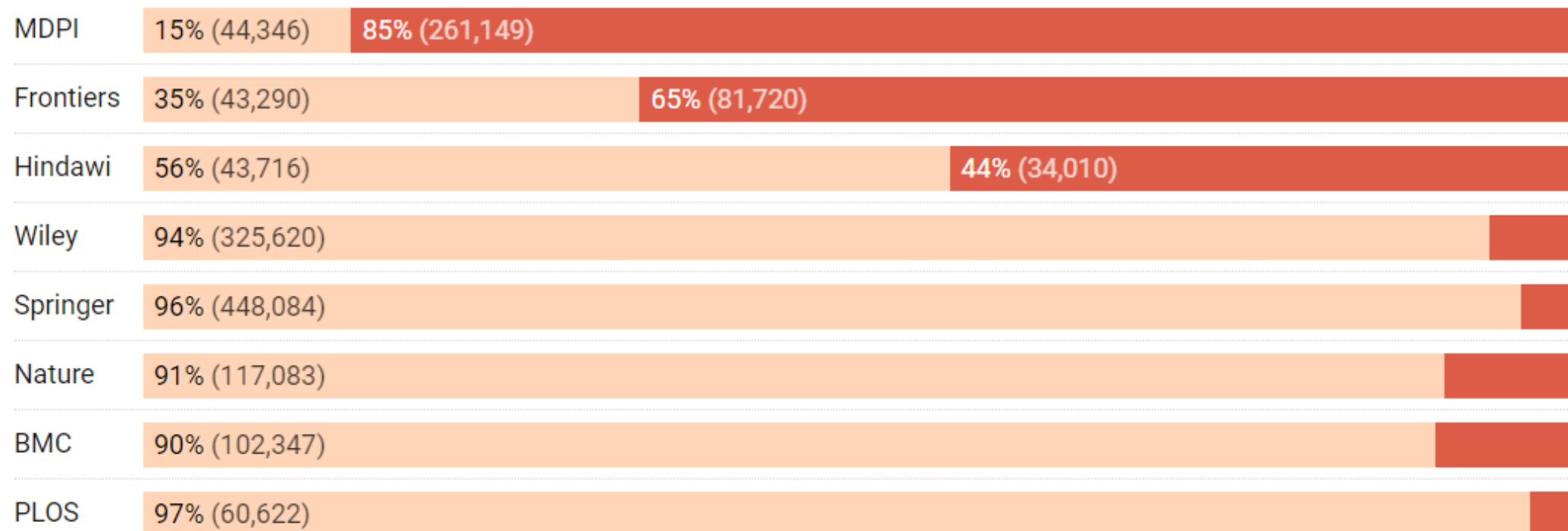
Journals with most papers published in 2022



The rise of Special issues

Data 2016-2022

Regular Issue Special Issue



Source: Public funds being swallowed up by scientific journals with dubious articles, El Pais, October 31, 2023

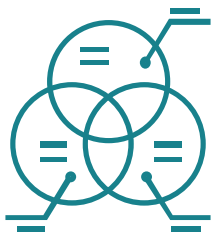
Retractions



Retractions of scientific papers have increased 10-fold since the 1970s and the rate has accelerated in the past decade (Brainard, 2022)

2010: around 400 English-language retractions (Retraction Watch Database), rising to 1,400 by 2015 (HUT, 2022).

2020: retractions exceeded 2,000 per year, reaching over 40,000 retractions in 2022 (Brainard, 2022; HUT, 2022).

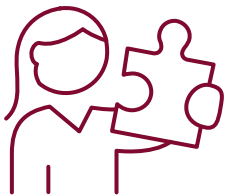


Reasons for retraction

Most common reasons: fraud/fabrication of data (43%), plagiarism (17%), mistakes (10%), and unreproducible results (5%) (Brainard, 2021).

Other major causes: duplicate publication, authorship issues, ethical concerns, and journal error

The reasons vary across fields



Retractions across academic fields

Certain fields like biological and medical sciences have higher rates of retraction compared to physical sciences, social sciences, and humanities (Fanelli et al., 2015).

Wiley and Hindawi to retract 1,200 more papers for compromised peer review

Hindawi and Wiley, its parent company, have identified approximately 1,200 articles with compromised peer review that the publishers will begin retracting this month.



The publisher Frontiers has retracted nearly 40 papers across



frontiers

multiple journals linked to “the unethical practice of buying or selling authorship on research papers,” according to a press release posted to a company website Monday.

Sage retracts more than 200 papers from journal for compromised peer review

The publisher Sage has retracted 209 articles from an engineering journal after an investigation found “compromised peer review or 3rd party involvement,” according to a company spokesperson.



The retractions, all from the *International Journal of Electrical Engineering & Education*, stem from an investigation that led Sage to retract 122 papers – as well as fire the editor-in-chief and purge the editorial board – in December 2021.

Retraction Watch Database

Version: 1.0.7.0

ISSN 2692-465X

The Retraction Watch Database

[News: Crossref has acquired the Retraction Watch Database, making it freely available.](#) Click [here](#) for more information.
Please review the [User Guide](#) before using the data and consider a [U.S. tax-deductible donation](#) to help us to continue to update and improve this important resource.

Author(s):	<input type="text" value="Type to search"/>	Country(s):	<input type="text"/>	Original Paper			
Title:	<input type="text" value="Type to search"/>			From Date:	<input type="text"/>	To:	<input type="text"/>
Reason(s) for Retraction:	<input type="text"/>			PubMedID:	<input type="text"/>	mm/dd/yyyy	
Subject(s):	<input type="text"/>	Article Type(s):	<input type="text"/>	DOI:	<input type="text"/>		
Journal:	<input type="text"/>			Retraction or Other Notices			
Publisher:	<input type="text"/>			From Date:	<input type="text"/>	To:	<input type="text"/>
Affiliation(s):	<input type="text"/>			PubMedID:	<input type="text"/>	mm/dd/yyyy	
Notes:	<input type="text"/>			DOI:	<input type="text"/>		
URL:	<input type="text"/>			Nature of Notice:	<input type="text"/>	Paywalled:	<input type="text"/>

[Clear Search](#)

Search

<http://retractiondatabase.org/RetractionSearch.aspx?>



↑
THE PAPER MILLS PHENOMENON

Predatory publishing

Exploitative academic publishing business model

Charging publication fees to authors without checking articles for quality and legitimacy

Not providing editorial and publishing services that legitimate academic journals provide, whether open access or not

Accepting articles quickly with little or no peer review or quality control, including mediocre and fake papers

Notifying of article fees only after papers are accepted

Allow editors to publish repeatedly in the journals they command

Listing academics as members of editorial boards without their permission

Appointing fake academics to editorial boards

Aggressively campaigning for academics to submit articles or serve on editorial boards

Fake indexing of the journals

Journal hijacking: mimicking the name or web site style of more established journals

<https://predatoryreports.org/>

Scandinavian Journal of Information Systems (SJIS)

Duplicate & salami slicing publication

Duplicate publication

The exact same data is stated into more than one publication

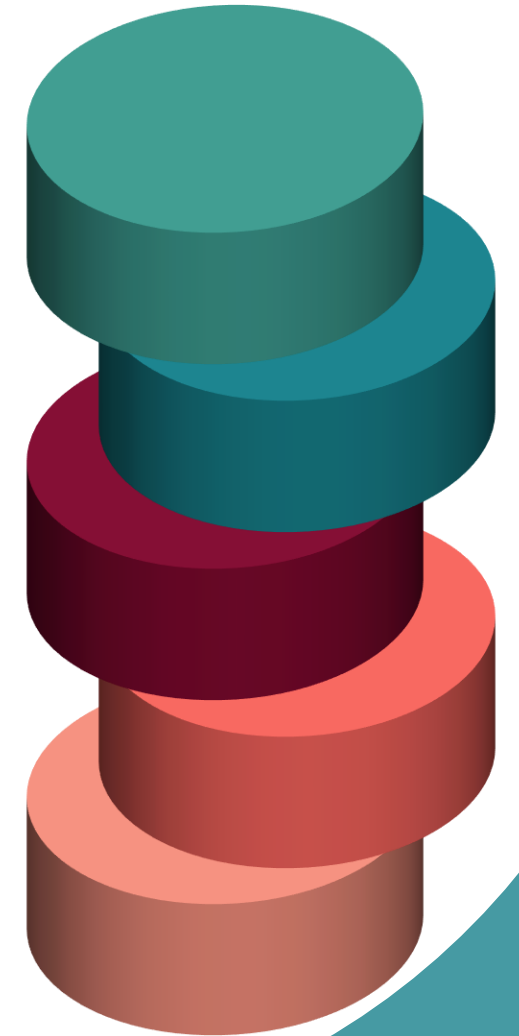
Salami slicing

A piece of research is divided (sliced) into several mini-research papers in order to publish a larger number of manuscripts

Generally, these publications share the same hypotheses, population and methods

The published research is less consistent and substantial

The scattering of information may prevent readers to see “the big picture” and lead to the misinterpretation of the findings



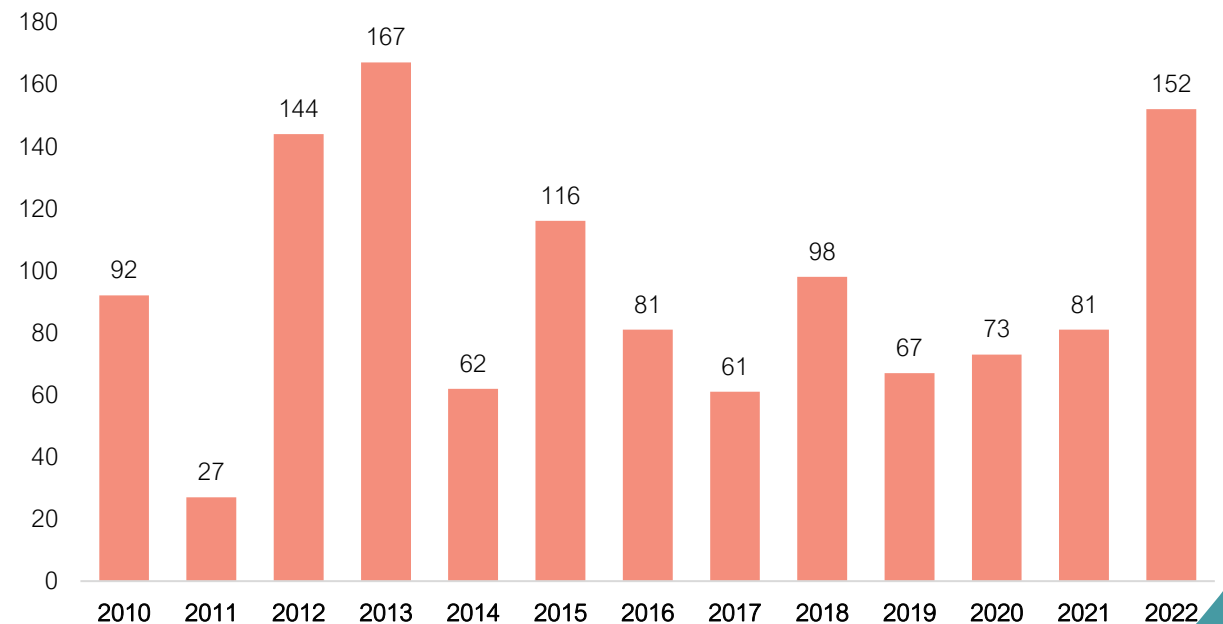
A slicker duplicate publication

Paper	Variables	Period and coverage
Alsaleh, M., Zubair, A. O., & Abdul-Rahim, A. S. (2020). The impact of global competitiveness on the growth of bioenergy industry in EU-28 region. <i>Sustainable Development</i> , 28(5), 1304-1316.	Bioenergy output – dependent variable Independent variables: WEF Global Competitiveness pillars: Enabling Environment, Human Capital, Markets, Innovation Ecosystem GDP	1990-2018, EU-28
Alsaleh, M., & Abdul-Rahim, A. S. (2021). Do global competitiveness factors effects the industry sustainability practices? Evidence from European hydropower industry. <i>Journal of Cleaner Production</i> , 310, 127492.	Hydropower output – dependent variable Independent variables: WEF Global Competitiveness pillars: Enabling Environment, Human Capital, Markets, Innovation Ecosystem GDP	1990-2018, EU-28

Data fabrication and falsification

- **Data fabrication:** making up of research findings
- **Data falsification:** manipulating research data with the intention of giving a false impression
 - Manipulating images, removing outliers or “inconvenient” results, changing, adding or omitting data points, etc.
- Form of research misconduct that affects the credibility of research and decreases public trust in science

Number of papers retracted because of fabrication or falsification of data



Source: Retraction Watch Database

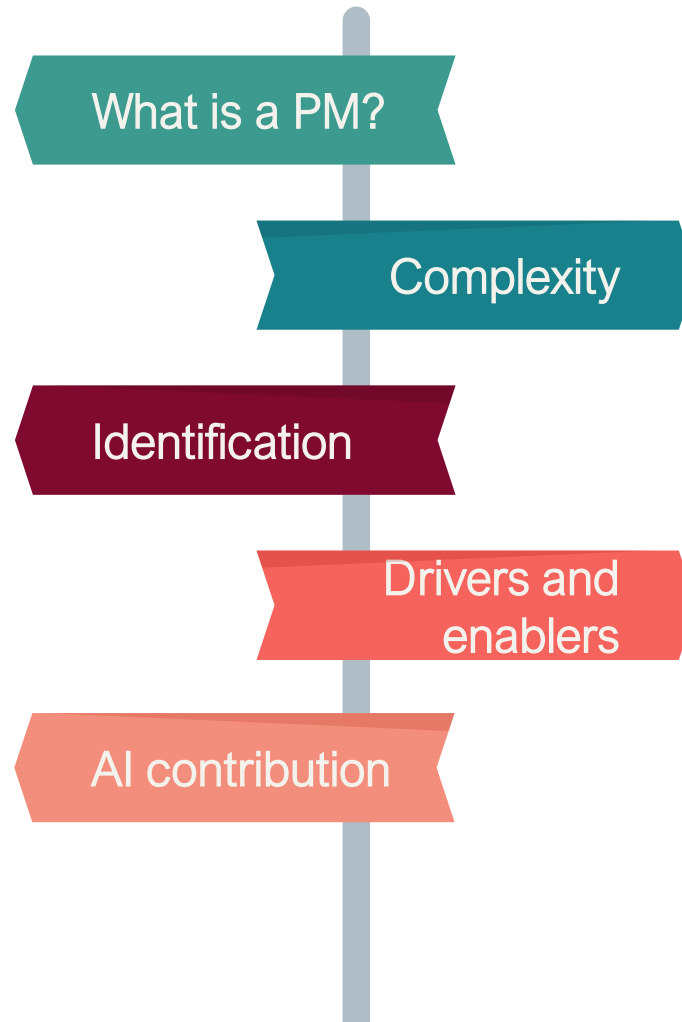
Paper mills or merchandising science

Unofficial, potentially illegal organizations that fabricate and sell fake scientific manuscripts that are submitted to scholarly journals, often to multiple journals at the same time. Already discovered in Russia, Iran, India, Latvia

PM can camouflage their activities under the facade of professional autonomous agencies serving the international market. PM pseudo-scientific manuscripts are difficult to identify through peer review or conventional editorial tools

AI has completely changed the landscape, as now papers can be produced in hours, not days/weeks

Highly prolific authors



In earlier years, the activity of PM involved plagiarism, but their processes have gained complexity, involving the fabrication of images and fake results

- Publication quotas and standards
- Project funding
- Employment, promotions and monetary bonuses linked to institutional metrics and scientometric indicators
- Growth of the profit-based publishing model
- Digital publishing leading to journal oversupply
- Insufficient numbers of over-burdened peer reviewers

A paper mill in Latvia

Co-authorship in Scopus, WoS scientific papers

Publication Support Services for Scientific, Academic Papers and Manuscripts



Co-authorship provides an opportunity to become a co-author of an existing article that has been submitted for publishing in **Scopus, Web of Science (SCIE, SSCI, AHCI, ESCI)** scientific journal.

By conducting the entire process, we intend to save your effort and time using our years of collaborating experience with major peer reviewed journals. Constant attention to authors' needs allows us to implement all submitting support procedures at the highest level.

You will find ready-made manuscripts of large themes variety on our site: Building and Construction, Architecture, Computer and Information Sciences, Transport and Engineering Sciences, Biology, Medicine, Agriculture, Economics, Education, Sociology, Political science, Mathematics, etc. Topics and new papers are updated monthly.

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Our company has been publishing articles in scientific journals since 2012. We have published over 12,750 articles. We are the market leader in the implementation of projects in co-authorship, proofreading, and manuscripts publishing. In 2021, we had 2322 fulfilled contracts.

Speciality ▼

Scopus ▼

Q1-Q4 ▼

Country ▼

#23-comp Feasibility Analysis of Innovative Projects to Develop High-Tech Products: The Instruments and Algorithms

Abstract: Nowadays, economic development is inseparably associated with high technology applications and the practical prologue of radical innovations. The implementation prospects offer an essential contribution in managing the project to develop high-tech product analysis. It would be ideal to base it on assessing the sufficiency of the internal possessions, [...] [Load More](#) ▼

Keywords: innovative project management, expert diagnostic system, high-tech products, diagnostics of the internal and external environment of the enterprise, fuzzy logic, fuzzy pyramidal networks.

Date of publication: March 2024 / Deadline: 25 November 2023

Journal title: available for those who has paid.

Region of the journal publication: Europe.

Scientific field: Economics, Econometrics and Finance, Social Science.

Indexing of the journal: Scopus Q1-2.

Article Author:

Author #1	Author #2	Author #3	Author #4
FREE	FREE	FREE	BUSY
USD 860	USD 790	USD 740	
Buy	Buy	Buy	
Author #5	Author #6		
BUSY	BUSY		

The many “services” of paper mills

Ghost-writing of pseudo-original articles containing fake, stolen or manipulated data and images



Selling of authorship positions in the articles' by-lines

Ghost-writing of reviews and meta-analyses



Purchase from an online manuscript catalogue

Provision of fraudulent or plagiarized data sets



Fake peer review

Translation of an article first published in a non-English language and then submitted for publication in a certain English-language journal



Submission and correspondence management

Informal PM: authorship & citation networks



Share many characteristics of PM but not the appearance



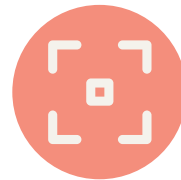
Publication in dedicated journals, mainly through Special issues and involving very rapid peer review



The participants in the network publish heavily and the citations skyrocket \Rightarrow scientometric indicators soar



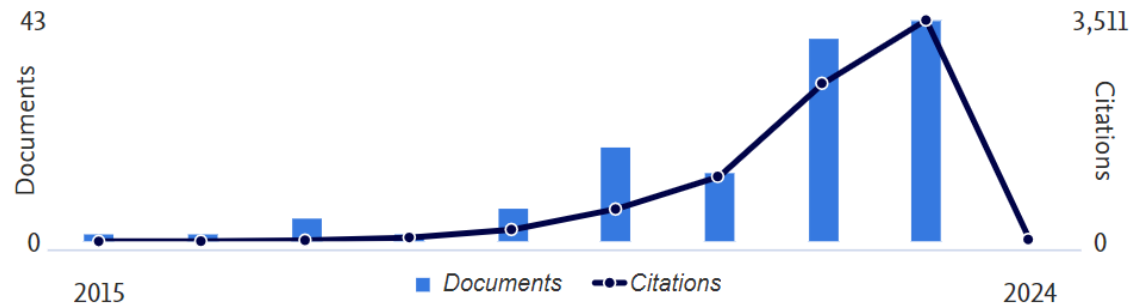
The prominent members of the network are included in Editorial boards



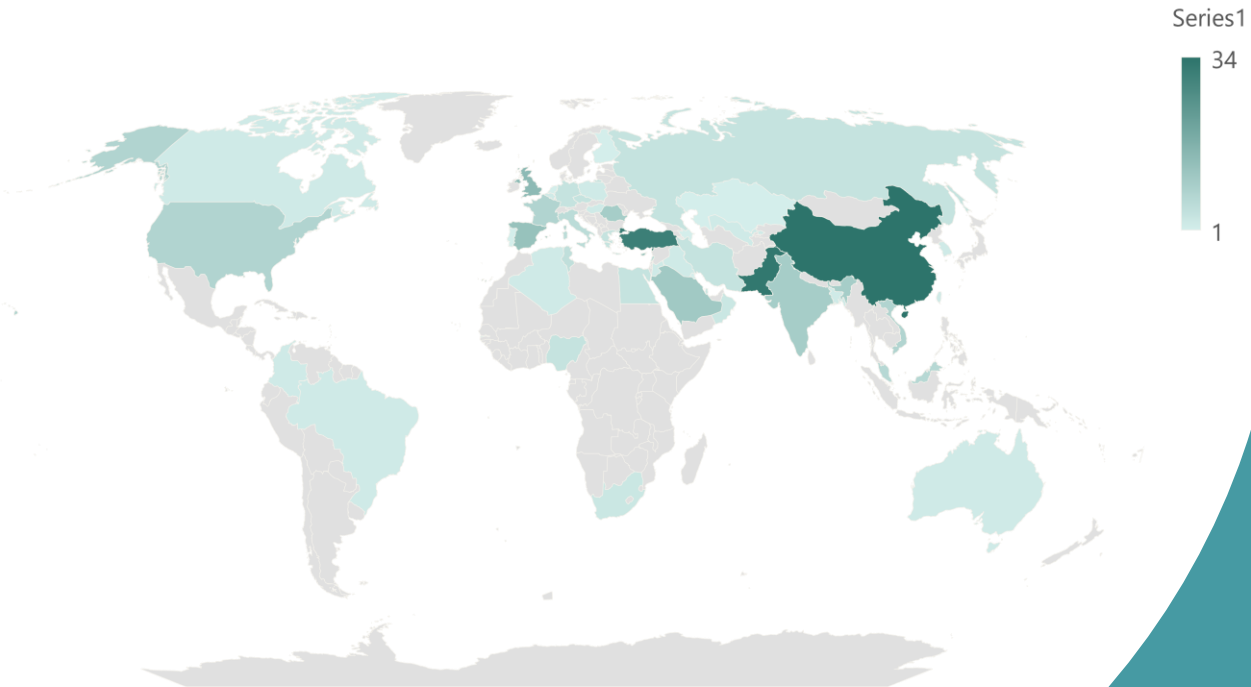
- The papers of the networks:
- Duplicate & salami slicing techniques
 - Fake data and results
 - Low English quality
 - Excessively high number of co-authors

Case study 1 – A Spanish scholar

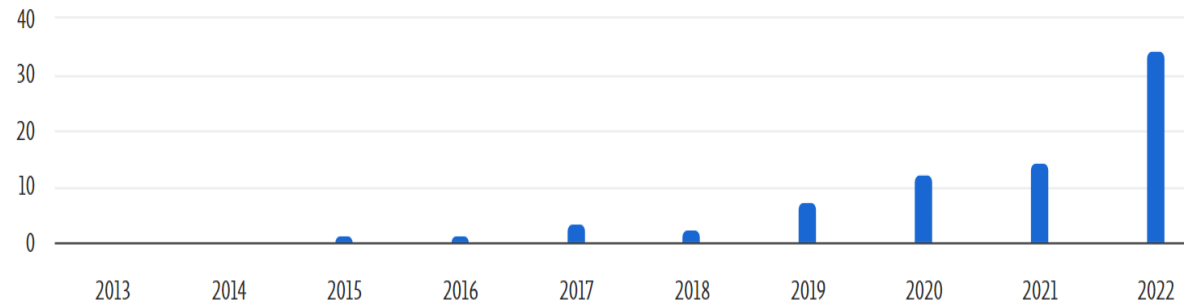
Documents and citations in Scopus



Co-authorship: Number of distinct authors per country



Documents in the top 25% most cited documents worldwide



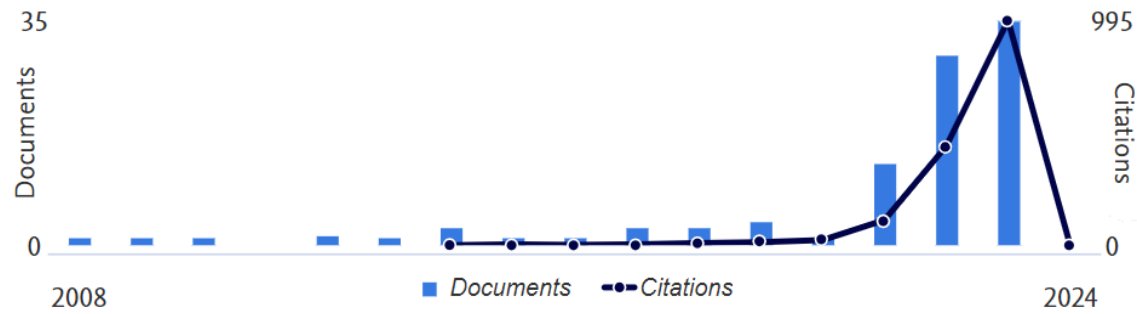
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Source: Scopus (search on Nov. 3, 2023)

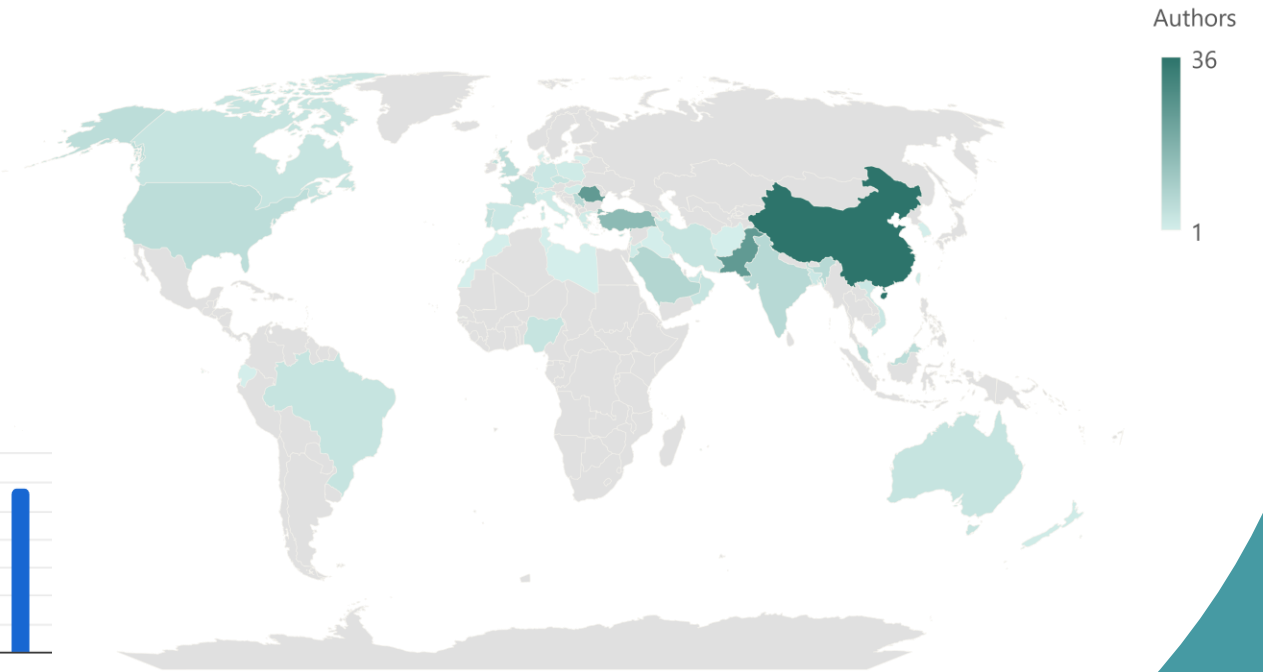
198 co-authors

Case study 2 – A Romanian scholar

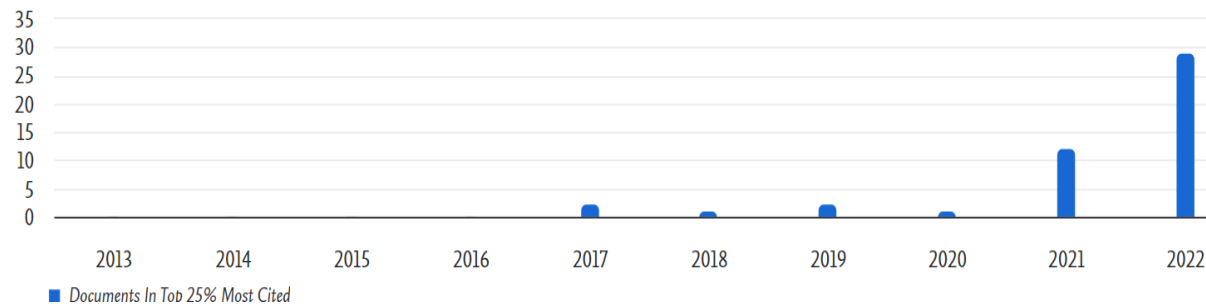
Documents and citations in Scopus



Co-authorship: Number of distinct authors per country



Documents in the top 25% most cited documents worldwide



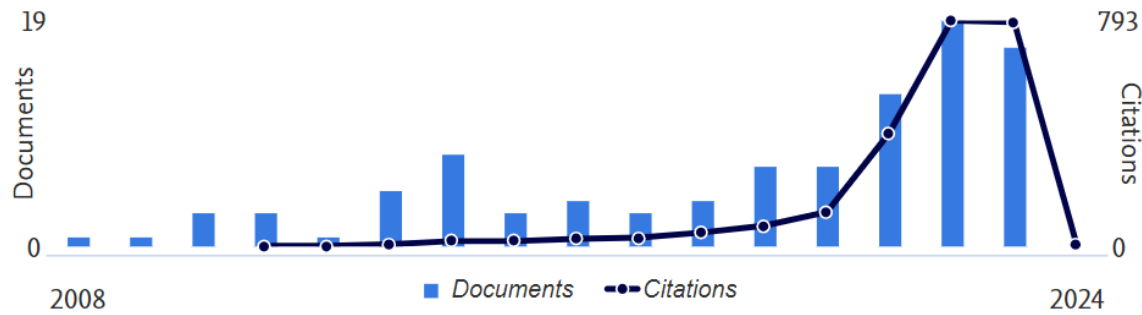
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Source: Scopus (search on Nov. 3, 2023)

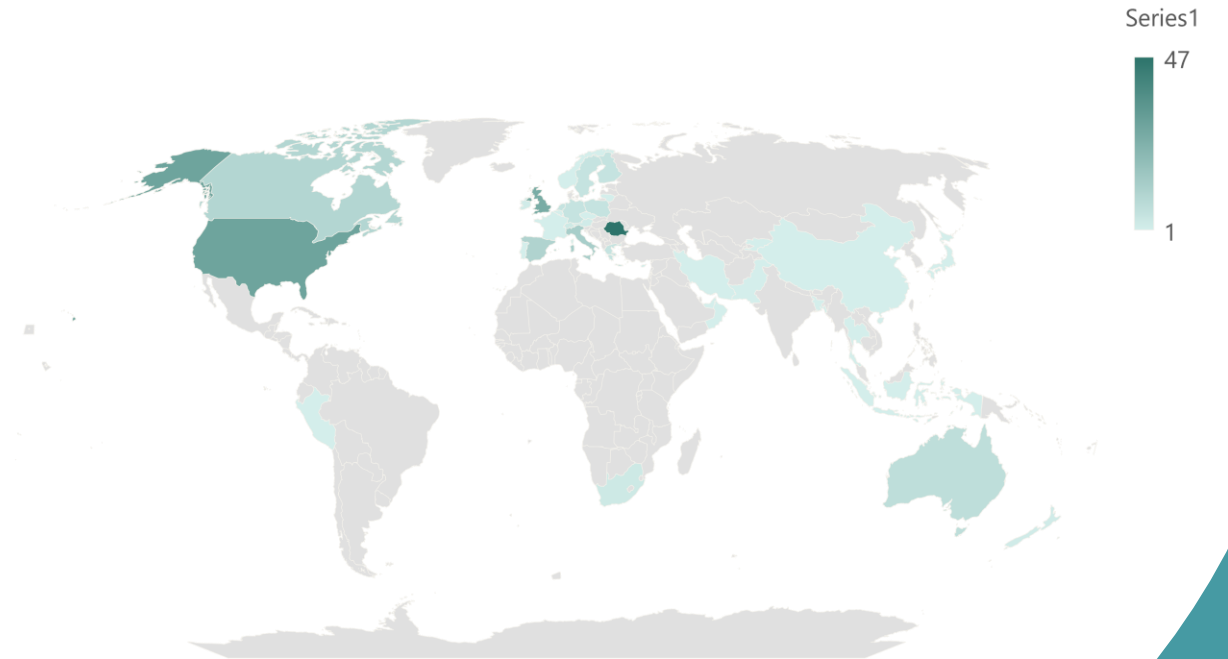
179 co-authors

Case study 3 – Another Romanian scholar

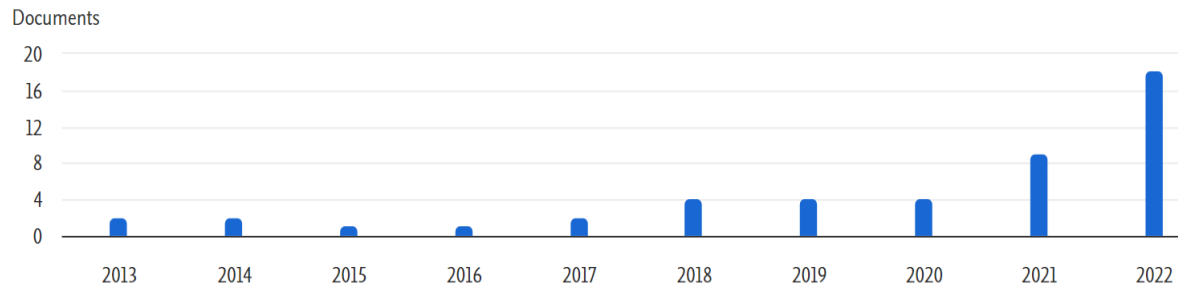
Documents and citations in Scopus



Co-authorship: Number of distinct authors per country



Documents in the top 25% most cited documents worldwide



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Source: Scopus (search on Nov. 3, 2023)

935 co-authors

PM are a widespread and substantial problem for science and research

Confusion to entire areas of research

The injection of large numbers of fake papers complicates the differentiation between real and invented findings

Meaningful progress in the field is impeded

Distorted journals IFs

Published papers are generally well cited

Soaring Impact factors and other scientometric indicators

Some journals are preferred publication outlets

Easy review process

Special issues

Publication fees

Rogue editor and reviewers

Public funds use

Finance the production of meaningless papers

Encourage purchasing of authorship, instead of promoting science

Retractions of PM papers

First paper retracted for paper milling

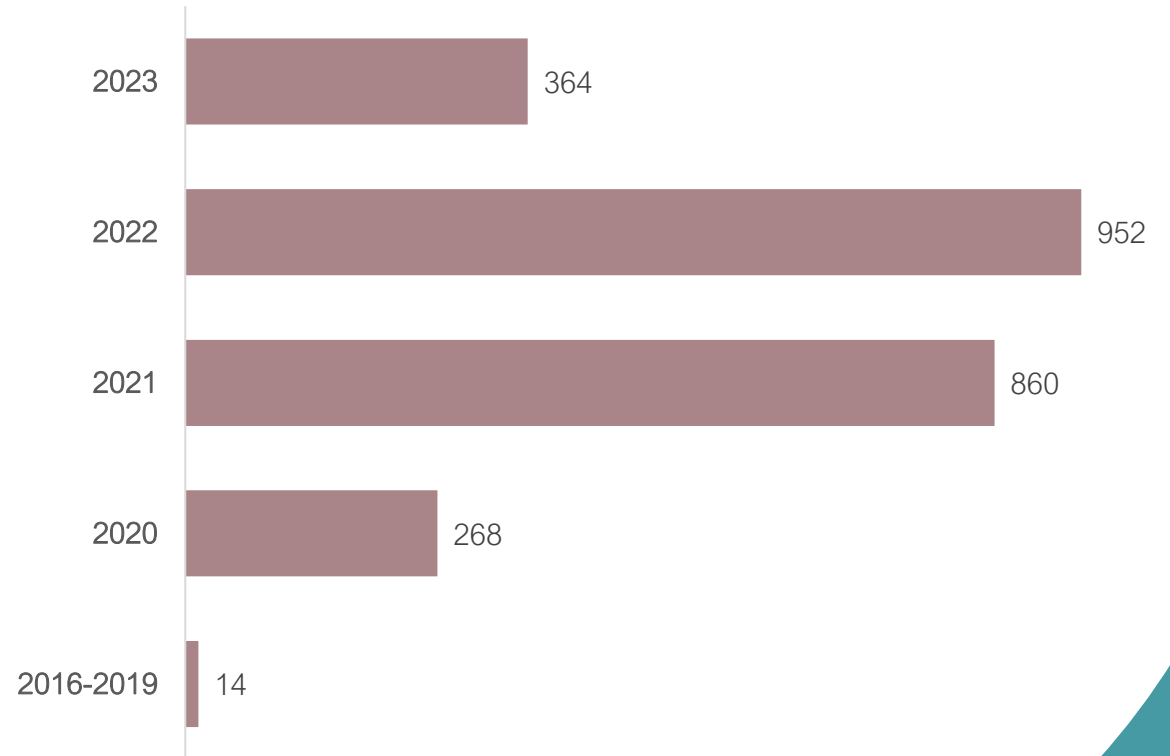
MOLECULAR MEDICINE REPORTS 15: 948-956, 2017

MicroRNA-152 inhibits cell proliferation, migration and invasion by directly targeting MAFB in nasopharyngeal carcinoma

YAN LI^{1,2*}, DALIU MIN^{3*}, KAI WANG⁴, SHANKAI YIN¹, HONGLIANG ZHENG⁵ and LIANGFA LIU³

Departments of ¹Otolaryngology and ²Oncology, Affiliated Sixth People's Hospital of Shanghai Jiao Tong University, Shanghai 200233; ³Department of Otolaryngology Head Neck Surgery, Beijing Friendship Hospital, Capital Medical University, Beijing 100050; ⁴Department of Otolaryngology, Zhabei Central Hospital, Shanghai 200070; ⁵Department of Otorhinolaryngology Head and Neck Surgery, Changhai Hospital, Second Military Medical University, Beijing 200433, P.R. China

Number of papers retracted due to paper mills



What role for AI?

Text analysis algorithms

Identify patterns, anomalies, and similarities that may indicate an academic paper was written by an AI system from a paper mill rather than a human researcher..

Machine learning techniques

be trained on datasets of both legitimate and paper mill generated papers to detect subtle differences in style, tone, and content

Natural language generation systems

Can produce high quality, human-like academic papers and could help test and improve paper mill detection systems



Web scraping and plagiarism checkers based on AI

Compare papers to identify reuse or templating

Network analysis algorithms

track relationships between authors, institutions, citations, collaborations, etc. to uncover suspicious clusters indicative of coordinated paper mill activity

AI cannot fully automate or solve the problem of academic fraud and paper mills.

But it can be a beneficial supplementary tool among a broader integrity strategy.

What is being done

STM Solutions releases MVP of new paper mill detection tool

News Announcement, Research Integrity

April 13, 2023

Today, STM Solutions, the operational arm of STM, announced the release of the MVP (minimal viable product) of a paper mill detection tool as part of the [STM Integrity Hub](#). It is a stand-alone web application where submitted journal manuscripts can be uploaded and checked for a variety of signals indicative of paper mills.

NEWS | 23 September 2022

'Papermill alarm' software flags potentially fake papers

The text-analysis tool could be used to help detect bogus research submitted to journals.

What needs to be done

1

Enhanced screening and review processes at journals relying on human expertise and AI tools

2

Campaigns and conferences to increase awareness about paper mills

7

Protections and support for whistleblowers and sleuths who evidence paper mill activities.

2

Enforced authorship policies requiring transparency about publications

5

Exposing the companies selling papers, not just the individuals that purchase them

8

Stronger collaborations between journals, institutions, funders, and oversight bodies to coordinate responses

3

Training for researchers on research integrity issues and the issue of paper mills

6

Developing international databases of retracted works and authors disciplined for fraud to prevent misconduct

9

Alternative research evaluation models that reduce reliance on scientometric indicators vulnerable to manipulation

Thank you!

The background features a teal gradient on the left side. On the right, there are overlapping circular and semi-circular shapes in shades of blue, pink, and grey, creating a modern, abstract design.