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# Fake Science: Misconduct Galore and Proposed Counterattack

Guillaume Cabanac

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Submitted on 11 Nov 2025

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<https://hal.science/hal-04225515>

# Fake science: Misconduct Galore and Proposed Counterattack

Guillaume Cabanac



## Comment



ILLUSTRATION: DAVID PARKINS

## ‘Stamp out paper mills’ – science sleuths on how to fight fake research

Anna Abalkina, René Aquarius, Elisabeth Bik, David Bimler, Dorothy Bishop, Jennifer Byrne, Guillaume Cabanac, Adam Day, Cyril Labbé & Nick Wise

A group of scientists who are experts at spotting problematic research outline five essential steps to combat industrialized scientific misconduct.

The production of fake research is now a thriving industry, thanks to paper mills. These networks sell paper authorships and poor-quality or fabricated scientific manuscripts to researchers, or violate the peer-review process by providing fake reviews. And they have become so prolific that current self-correction mechanisms no longer work.

problem might have started even earlier – at least 400,000 papers published between 2000 and 2022 show the hallmarks of having been produced by paper mills (see *Nature* 623, 466–467; 2023). Yet only 55,000 were retracted or corrected in the same period, according to the database of the website Retraction Watch. Fraudulent research pollutes the literature, slows down scientific pro-

# Rusty needles in a haystack of 160+ million publications

Home

Media Coverage

Fingerprints

All Problematic Papers

Detectors:

1 Annulled

2 Concerning

3 Feet of Clay

4 Tortured

5 Suspect

6 SCIdgen

7 Mathgen

8 Citejacked

9 Seek&Blastn

112k

5k

1M

22k

6k



## Problematic Paper Screener

Est. February 27<sup>th</sup>, 2021

In collaboration with  
**Prof. Cyril Labbé**,  
Univ. Grenoble-Alpes and  
**Dr. Alexander Magazinov**,  
Yandex Kazakhstan

Stable URL: <https://www.irit.fr/~Guillaume.Cabanac/problematic-paper-screener>

The PPS website screens the scientific literature for papers (partly) generated with:

- ▶ Tortured phrases 🤖
- ▶ SCIdgen
- ▶ Mathgen

... and issues in the bibliographies of articles citing:

- ▶ Retracted references
- ▶ References marked with expressions of concern
- ▶ References flagged by the PPS detectors

Harvesting data from these APIs:

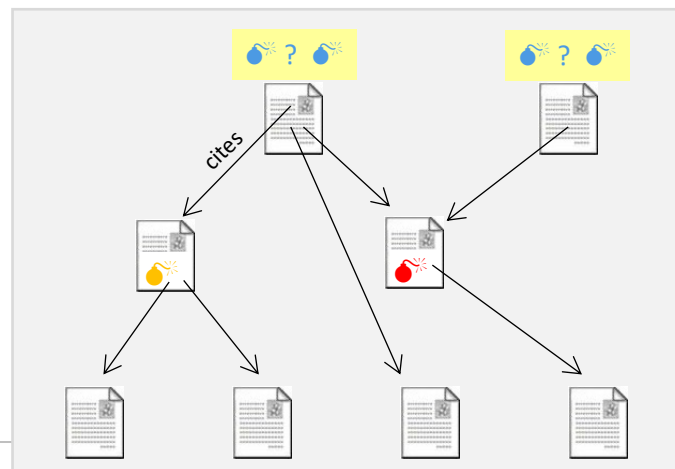
- ▶ Crossref, now including the Retraction Watch Database
- ▶ Dimensions, see our [webinar](#) and the associated [blog post](#)
- ▶ PubMed
- ▶ PubPeer



"Problematic Paper Screener"



12348 results



**THREATS**

Hijacked

Journals

Fake

Conferences

×



Gold APC aka Author Pays  
(Author Processing Charges)



Predatory

×

Publishers

Grey

Authorship

Article

Reviewers

... for sale

Paper mills

Publish or Perish

Crooked (Guest) Editors

Plethoric Special Issues

Conflicts of Interests

**POLLUTION**

Gaming the Metrics

Highly Cited Researchers™

SCIgen

Machine Generation

Mathgen

Guest

Authors

Impersonated

×

Institutions

AI LLMs

Ghost

Hallucinations

Citation

Plantation

*p*-hacking

Image Doctoring  
aka  
Photoshopping

Ring/Cartel

Data Fabrication

Overgeneralisation

Miscitation

Spinning

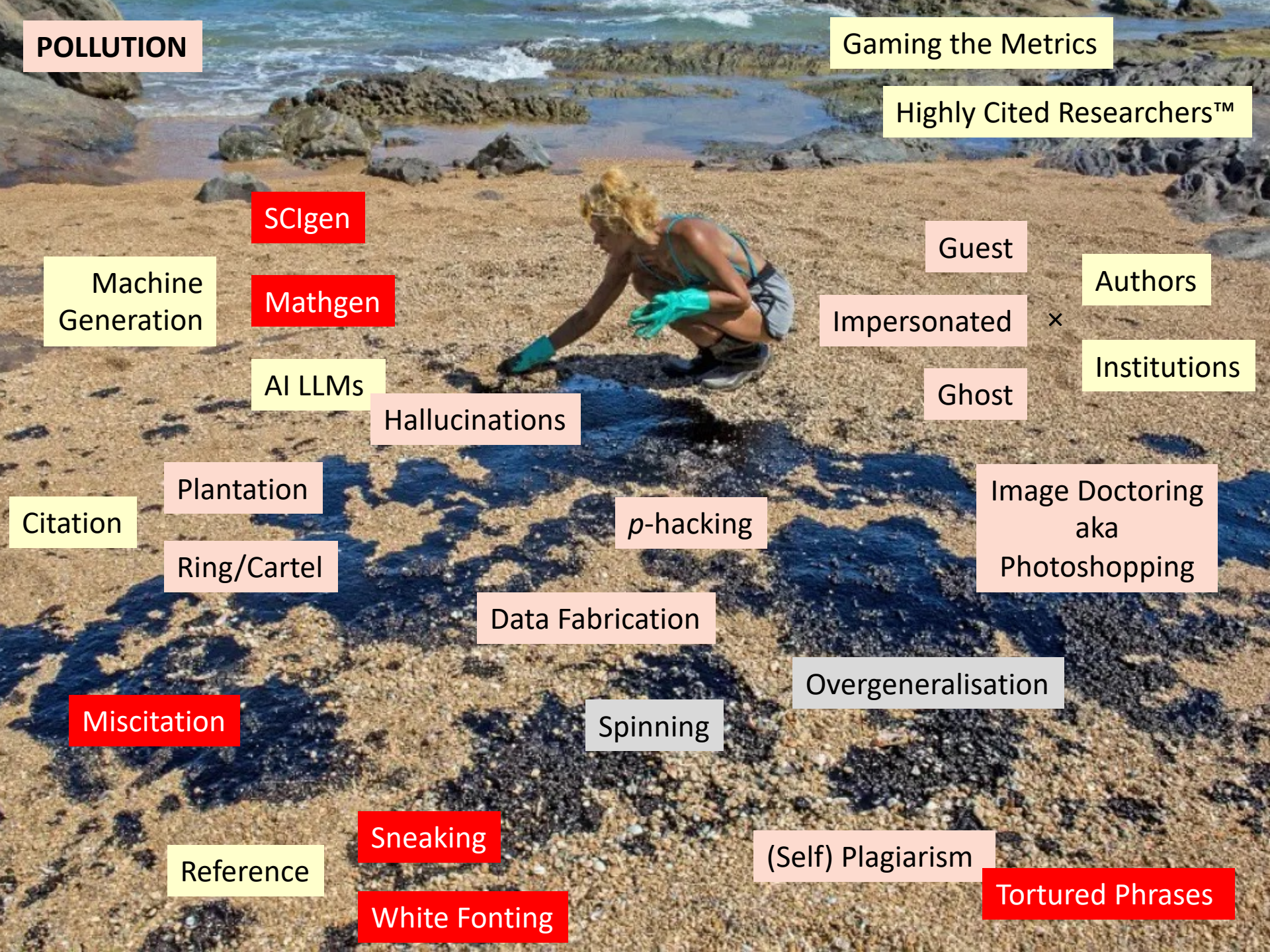
Reference

Sneaking

(Self) Plagiarism

White Fonting

Tortured Phrases



# POST PUBLICATION PEER REVIEW

Organised Scepticism

Digital Hygiene

Replication Crisis

Correction/Erratum

'Honest' Error

Retraction

Falsification

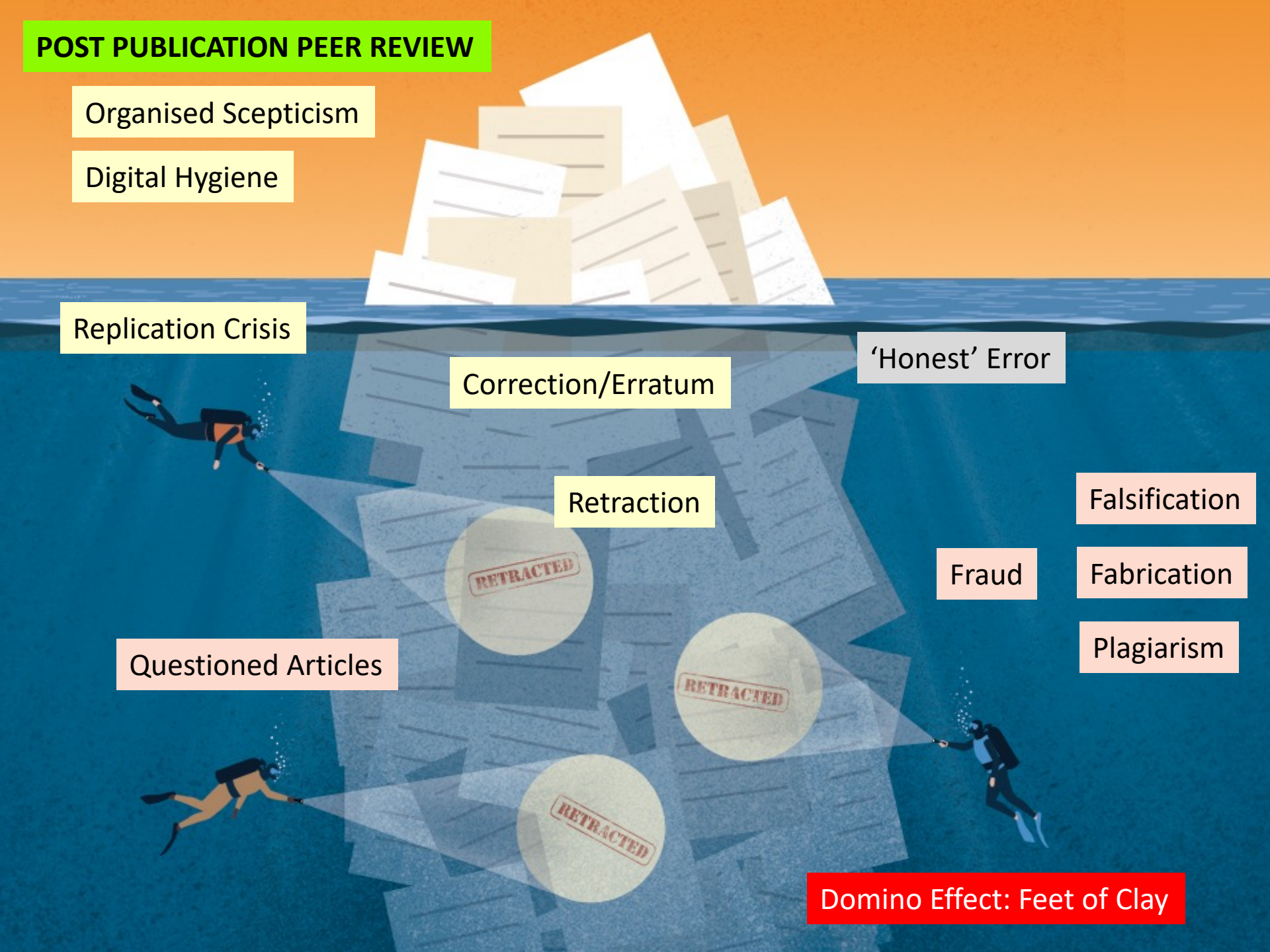
Fraud

Fabrication

Questioned Articles

Plagiarism

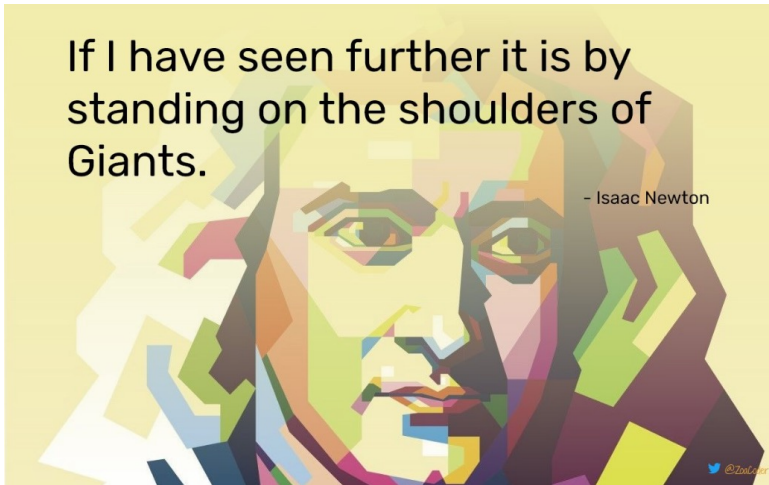
Domino Effect: Feet of Clay



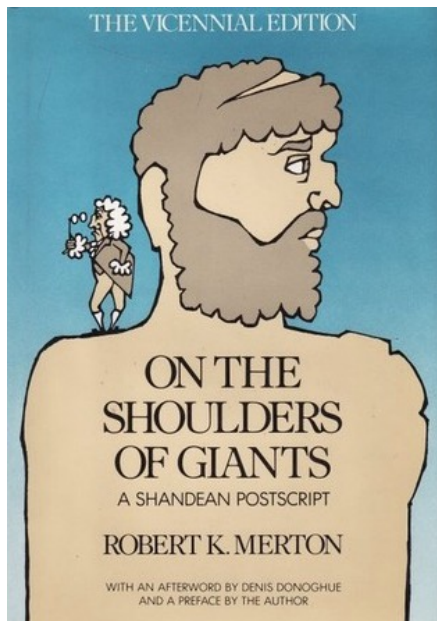
# Science: Knowledge accumulation

If I have seen further it is by standing on the shoulders of Giants.

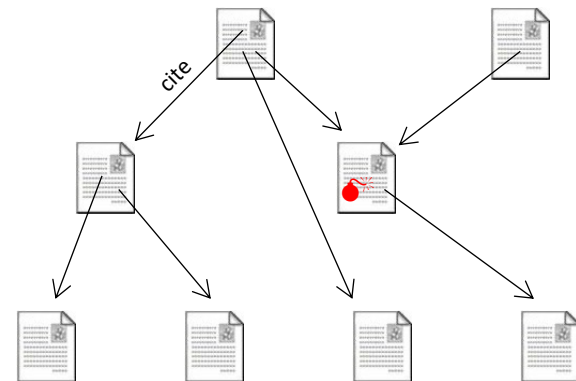
- Isaac Newton



Science contributes to the knowledge wall



1965



Sedimentation as time passes

# Self-correction process

One flawed paper = weakened edifice



*American Economic Review: Papers & Proceedings 100 (May 2010): 573–578*

## Growth in a Time of Debt

By CARMEN M. REINHART AND KENNETH S. ROGOFF

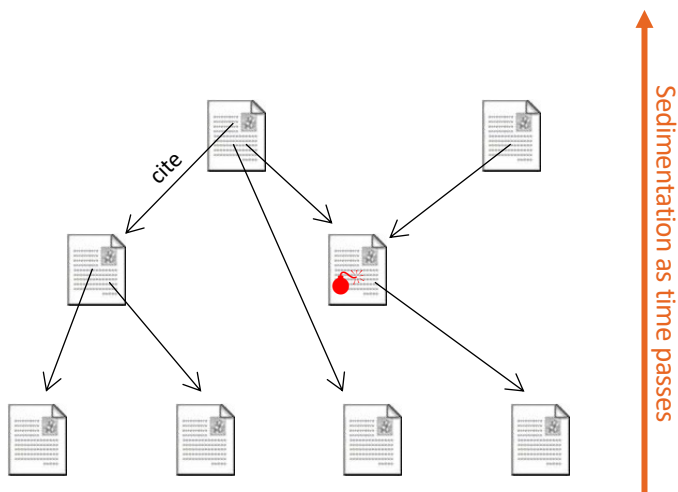


⇒ austerity measures

May 5, 2013

**Errata:**

“Growth in A Time of Debt”  
Carmen M. Reinhart and Kenneth S. Rogoff  
*Harvard University*

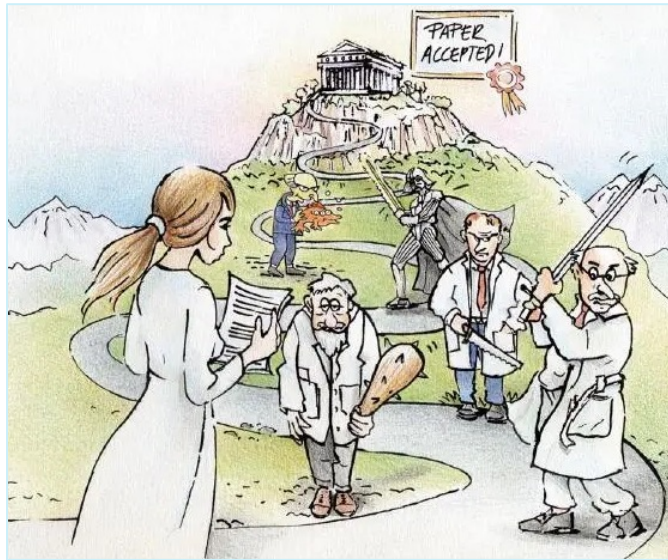


corrigenda, errata, and retractions

# The ethos of Science

## A NOTE ON SCIENCE AND DEMOCRACY

by ROBERT K. MERTON



Peer review

## Four Norms of Science

### 1. COMMUNALISM

→ All scientists should have common ownership of scientific goods (intellectual property), to promote collective collaboration; SECRECY is the OPPOSITE of this norm! *scientists should SHARE!*

### 2. UNIVERSALISM

→ Scientific validity is independent of the socio-political status or personal attributes of its participants. *"The intensity of a conviction that a hypothesis is true has no bearing over whether it is true or not." — Sir Peter Medawar*

### 3. DISINTERESTEDNESS (a mouthful!)

→ Scientific institutions act for the benefit of a common scientific enterprise, rather than for the personal gain of individuals within them. *This is why a LOT of people are freaked out by pharmaceutical companies, for example.*

### 4. ORGANIZED SKEPTICISM (Yow!)

→ Scientific claims should be exposed to critical scrutiny before being accepted, both in methodology and institutional codes of conduct. *All scientific claims are pending, awaiting the critical scrutiny of other scientists.*

Robert K. Merton

(7/2/1910 - 2/13/1983)

American Sociologist

Awarded the National Medal of Science!



# The (battle) field

## La spécificité du champ scientifique et les conditions sociales du progrès de la raison

PIERRE BOURDIEU

*Sociologie et sociétés*

71 (1975): 91–118.



Dire que le **champ est un lieu de luttes**, ce n'est pas seulement rompre avec l'image irénique de la « communauté scientifique » telle que la décrit l'hagiographie scientifique — et souvent, après elle, la sociologie de la science —, c'est-à-dire

La sociologie de la science repose sur le postulat que la vérité du produit, — s'agirait-il de ce produit très particulier qu'est la vérité scientifique —, réside dans une espèce particulière de **conditions sociales de production**; c'est-à-dire, plus précisément, dans un état déterminé de la structure et du fonctionnement du champ scientifique. L'univers « pur » de la science la plus « pure » est un champ social comme un autre, avec ses **rapports de forces et ses monopoles**, ses luttes et ses stratégies, ses intérêts et ses profits, mais où tous ces *invariants* revêtent des formes spécifiques.

knowledge in his field ». **Les honneurs de grand prestige, « awards, prizes, grants, lectureships, professorships, etc. », sont les signes de reconnaissance réservés aux « great men »** (B. G. Glaser, « Comparative Failure in Science », *Science*, mars 6, 1964, vol. 143, n° 3610, pp. 1012-1014).

Du fait que toutes les pratiques sont orientées vers l'**acquisition de l'autorité scientifique** (prestige, reconnaissance, célébrité, etc.), enjeu intrinsèquement *double*, ce que l'on appelle communément « l'intérêt » pour une activité scientifique (une discipline, un secteur de cette discipline, une méthode, etc.) est toujours à double face ; et de même les stratégies qui tendent à assurer la satisfaction de cet intérêt.

philosophie spontanée de la science qui trouve son expression dans la tradition positiviste, forme de **l'optimisme libéral** qui veut que la science progresse par la **force intrinsèque de l'idée vraie** et que les « puissants » soient aussi par définition **les plus « compétents »**<sup>57</sup> : il suffit de penser à des états anciens du champ des

La **reconnaissance socialement marquée** et garantie (par tout un ensemble de **signes spécifiques de consécration**)<sup>12</sup> que le groupe des pairs-concurrents accorde à chacun de ses membres est fonction de la *valeur distinctive* de ses produits et de l'*originalité* collectivement reconnue (au sens de la théorie de l'information) de la contribution qu'il apporte aux ressources scientifiques déjà accumulées. Le fait que

# Massification and globalization

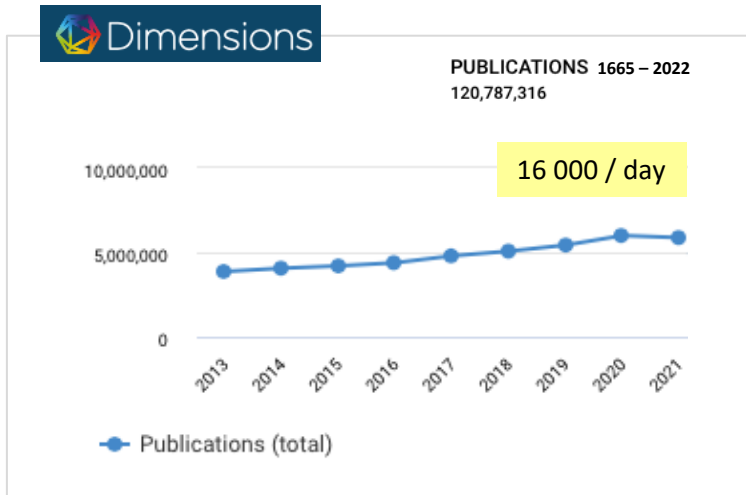
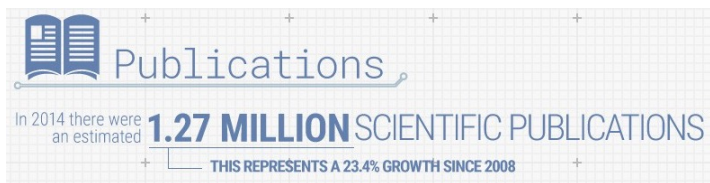
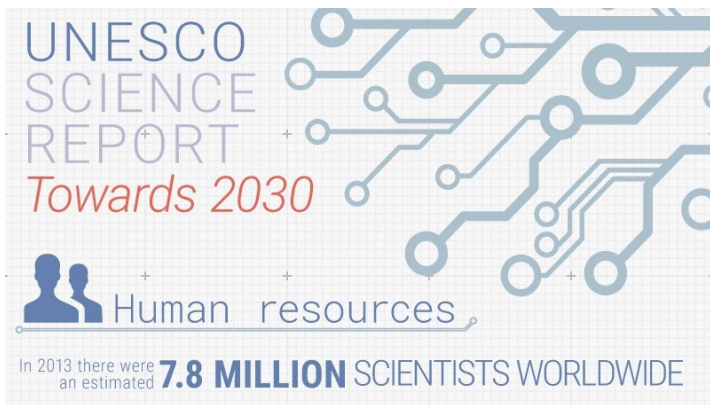
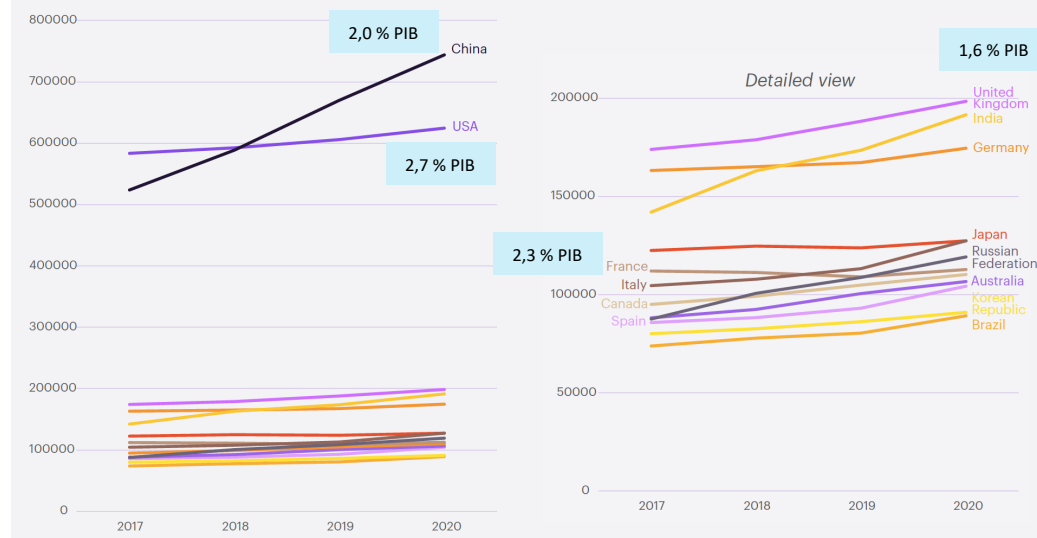


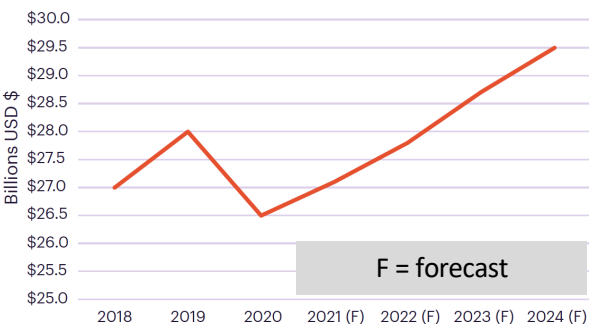
Fig.17 Growth in articles\* by authors affiliated with national research institutions, 2017 to 2020 (Source: SCImago Journal and Country Rank, 2021)



STM Global Brief 2021

# An oligopolistic and lucrative business

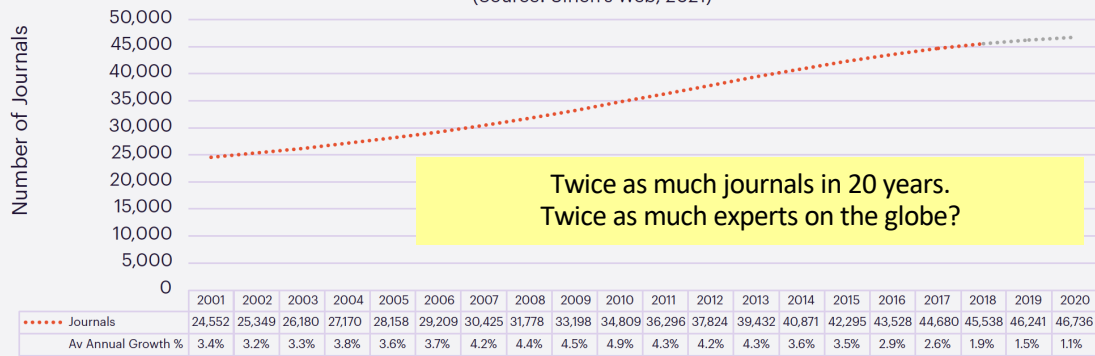
Total STM Market Value (Source: Outsell, Inc. 2021)



STM Global Brief 2021

Fig.13

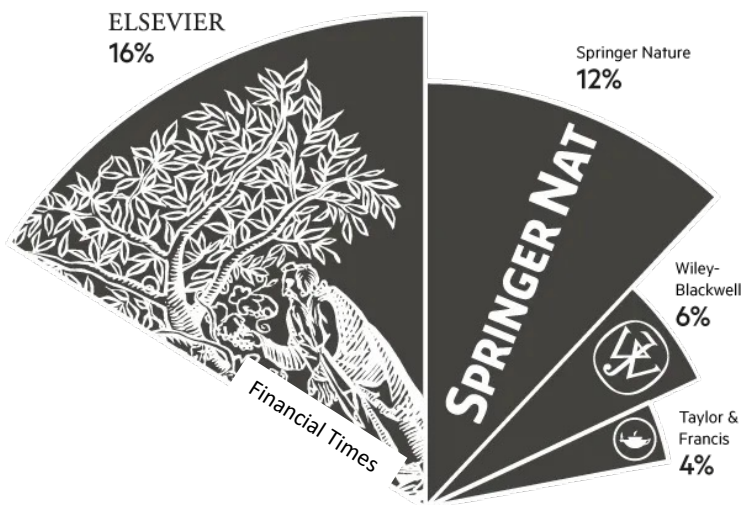
Growth in Number of Journals 2000-2020  
(Source: Ulrich's Web, 2021)



STM Global Brief 2021

## Elsevier top of the league

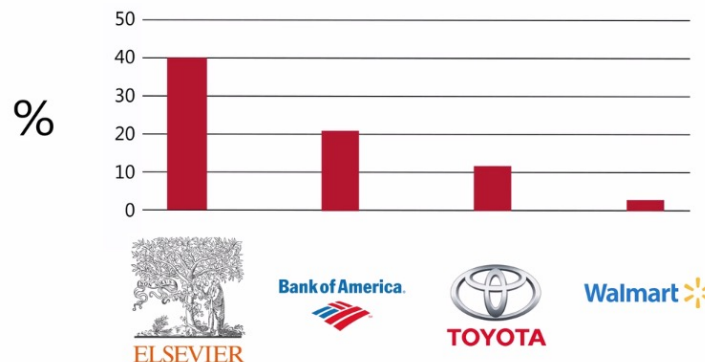
Global market share of journal articles by leading publishers, 2013 (%)



Source: company

## Movie "Paywall: the Business of Scholarship"

### CORPORATE PROFIT MARGINS



## Predatory journals



### The definition

The consensus definition reached was: “Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices.”

210 | Nature | Vol 576 | 12 December 2019

NATURE | VOL 534 | 16 JUNE 2016

### Ban predators from the scientific record

Predatory journals are threatening the credibility of science. By faking or neglecting peer review, they pollute the scholarly record with fringe or junk science and activist research. I suggest that every publishing stakeholder could contribute to reining in these journals.

...

**Jeffrey Beall** *Auraria Library,  
University of Colorado Denver,  
USA.*  
[jeffrey.beall@ucdenver.edu](mailto:jeffrey.beall@ucdenver.edu)

Nature | Vol 598 | 28 October 2021

## Predatory publishers' latest scam: bootlegged and rebranded papers

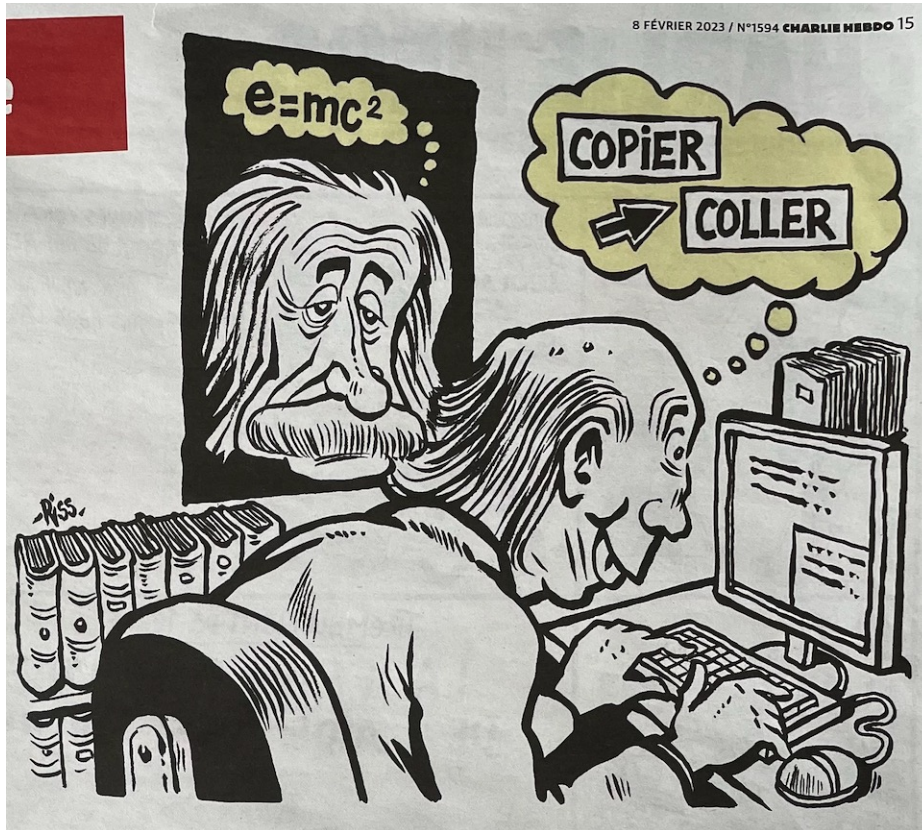
Kyle Siler, Philippe Vincent-Lamarre, Cassidy R. Sugimoto & Vincent Larivière



# Breaches of research integrity

A panorama of recent cases of misconduct...

... it doesn't just happen to other people/labs...



Focus on actionable preventive measures

# 1. Impersonation



<https://retractionwatch.com>

## French ocean institute goes public about authors who forged their researchers' names

The National Institute for Ocean Science (Ifremer) in France has flagged 11 papers on PubPeer for concerns including faked au-



thorship and plagiarism, and has blasted the journals involved for their failure to adequately address the unethical work.

In some cases, for example the *International Journal of Innovative Computing, Information and Control*, editors have removed the names of the forged authors without informing readers.

A name that appears on nine of the articles is Bertrand Chapron, a researcher at Ifremer. **Chapron had nothing to do with the articles** – a fact his institution has been pointing out to the journals involved, without satisfaction, while noting that two of his putative co-authors have highly suspect affiliations.

### Prevention:

- Monitor via Google Scholar alerts
- Regularly search for one's identity with query: "name surname"

## 2. In extenso plagiarism of an article

Taylor & Francis Online

Home ▶ All Journals ▶ Korean Journal of Biological Sciences ▶ List of Issues ▶ Volume 4, Issue 3 ▶ Effects of microgravity and hypergravity ....

Korean Journal of Biological Sciences ▶  
Volume 4, 2000 - Issue 3

Journal homepage

383 Views  
2 CrossRef citations to date  
6 Altmetric

Original Articles

### Effects of microgravity and hypergravity on aging and longevity of insects

Hak Ryul Kim  
Pages 231-237 | Received 24 Jun 2000, Accepted 22 Jul 2000, Published online: 22 Nov 2010  
Download citation | <https://doi.org/10.1080/12265071.2000.9647549>

References Citations Metrics Licensing Reprints & Permissions PDF

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>> Sign in here to start your access to the latest two volumes for 14 days

The effects of microgravity and hypergravity on aging are still poorly documented, particularly in mammals. However, there is a growing interest for the use of the fruit fly, *Drosophila melanogaster*, and this species may be now considered as a model organism in gravitational biology studies dealing with aging.

Q Key words: [Aging](#) [Drosophila melanogaster](#) [Hypergravity](#) [Insect](#) [Longevity](#) [Microgravity](#)

Related research

People also read Recommended articles

The role of cellular senescence in ... through the prism of Koch-like c...

Hagai Yanai et al.  
Ageing Research Reviews  
01 Oct 2017

Guillaume Cabanac (@gcabanac@sciences.re) @gcabanac

"a complete plagiarism": a T&F 2000 paper plagiarised a 1999 paper by a @CNRS researcher @CbiToulouse @UT3PaulSabatier. Twenty years later, the copy-paste 'article' is still online, cited, unretracted, no caveat displayed 🤔. High time to act @tandfonline! pubpeer.com/publications/9...

Complete plagiarism of (Le Bourg, 1999), an article authored by a researcher of Université Toulouse 3. Retracted in 2022 (only)!

Prevention :

- Analyse Google Scholar alerts
- Report plagiarism to editors and publishers

#1 Guillaume Cabanac commented June 2022

Because it was found to plagiarise (Le Bourg, 1999), this paper was discussed in:

Butler, D. (2008). Entire-paper plagiarism caught by software. In *Nature* (Vol. 455, Issue 7214, pp. 715–715). Springer Science and Business Media LLC.  
<https://doi.org/10.1038/455715a>

It has been retracted by the editors of *Animal Cells and Systems* who report on their investigation in:

Rhee, M., Chung, C. H., & Nam, S. H. (2009). Response to the publisher's note. In *Experimental Gerontology* (Vol. 44, Issue 4, pp. 305–305). Elsevier BV.  
<https://doi.org/10.1016/j.exger.2009.01.001>

<https://pubpeer.com/publications/95A46C763AC2D8A440515DDACC1C29>



# 3b. Plagiarism of articles

## Visualise copy-paste: SimTexter and Text Compare

**similarity texter**  
A TEXT-COMPARISON TOOL

**OUTPUT**

TEXT: Plain text input

**my article**

**Suspected plagiarism**

TEXT: Plain text input

BIOMARKERS OF OXIDATIVE STRESS IN DOGS

W. Jean Dodds.  
Medical Research Archives vol 6 issue 5. Medical Research Archives  
Hemopet, 938 Stanford Street, Santa Monica, CA 90403, USA

Introduction:

In people and animals, cells are in homeostatic equilibrium when they are in oxidative balance, namely, when the cellular antioxidants (reducing agents) are balanced with the oxidants (oxidizing agents) [1-6]. However, when oxidant levels exceed antioxidants (termed cell redox), cells undergo oxidative stress (OS), which is the basic mechanism of all sickness and chronic disease [1-7]. Extensive investigations of OS and chronic tissue inflammatory responses have established the major underlying risk factors that play key roles in the etiology of a range of human (and animal) diseases that include rheumatoid arthritis, cancers, diabetes, obesity, neurodegenerative disorders, cardiovascular diseases, acute and chronic kidney injury and disease, and other chronic diseases [1,6,7,9]. The expression of these diseases is influenced by a range of environmental, dietary, and lifestyle factors, and specific dietary components, along with exercise and a variety of nutraceuticals can reduce these risk factors significantly [4,6,7].

Chronic inflammation from the increased free radical formation of OS, also called reactive oxygen species (ROS), occurs when tissues or organs receive inflammatory "mediator" messages that cause them to react as though the "trigger" or pathogen is still present. Rather than repairing themselves, these cells remain in an ongoing state of inflammation that can wax and wane life-long.

Tissues thus become deficient in antioxidant mediators, such as malondialdehyde, glutathione, cysteine, ascorbic acid and other antioxidant vitamins, which is associated with a poor clinical outcome [6-7]. In healthy states, 25% of oxygen intake forms ROS, whereas this increases to 75% in unhealthy states and in aging [4]. When cells undergo damage, they release biomarker enzymes that lead to tissue inflammation, infections, obesity and even cancers. Biomarkers of clinical relevance in people and pets include isoprostane, Nrf2, microRNA, and others [6,7]. When elevated, the presence of high levels of these biomarkers can be addressed with diet and supplement changes to promote beneficial anti-oxidant effects [4,6,7] [CellBiomarkers.org]. These assays are repeated periodically to assess the response and adjust nutritional and nutraceutical therapy, as needed. Management of OS has focused on the development of functional foods, e.g. those containing natural Nrf-2 activators. These include such antioxidant ingredients as: turmeric (*Curcuma longa*), and its relative, ginger (*Zingiber officiale*); chili peppers (*Capsicum annuum*); green tea (*Camellia sinensis*, which contains tannins and polyphenol catechins, and other teas); soybeans (*Glycine max*); tomatoes (*Solanum lycopersicum*, rich in lycopene); grapes (not for pets); honey (not for infants or very young animals); cranberries (*Vaccinium macrocarpon*, contains pro-antihydroxyindols); licorice (*Glycyrrhiza glabra*); garlic (*Allium sativum*, in moderation for pets); milk thistle (*Silybum marianum*); cabbages and broccoli (*Brassica oleracea var. capitata* and *var. italica*) [4,6,7].

Some Primary Oxidative Stress BioMarkers [6,7]

Isoprostanes: are a series of prostaglandin-like compounds produced by peroxidation of arachidonic acid. This process is catalyzed by ROS, and they are considered the "gold standard" test for quantifying lipid peroxidation/OS in vivo in humans and animals.

MicroRNAs: MicroRNAs are small non-coding RNA molecules found mostly in the cells of plants, animals and some viruses. They function in RNA silencing and post-transcriptional regulation of gene expression. The function of microRNAs is in gene regulation.

Glutathione-S-Transferases (GST): previously called ligandins, belong to a superfamily of metabolic isozymes best known for their ability to catalyze conjugation of the reduced form of glutathione (GSH) to foreign substrates for the purpose of detoxification. They are found in plants, animals, fungi, and some bacteria. GSH prevents damage to cells by ROS, peroxides, lipid peroxides, and heavy metals, and plays an important role in cell signaling. Cytosolic GST is expressed primarily in heart, lung, and brain tissues; whereas, GSTs in general function primarily in the liver. High levels of GST are associated with resistance to the apoptosis (cell death) induced by a range of substances, including chemotherapeutic agents. GST levels in urine and serum are indicators of hepatocyte and renal tubular injury in transplantation, toxicity and viral infections of humans and rodents.

Malondialdehyde: A reactive aldehyde, occurs naturally as a biomarker for OS and is formed when ROS degrade polyunsaturated lipids. Malondialdehyde is potentially mutagenic, and has been found in heated edible oils such as sunflower and palm oils. Corneas of human patients suffering from keratoconus and bullous keratopathy have increased levels of malondialdehyde, and this aldehyde also can be found in tissue sections of joints from human patients with osteoarthritis.

Tumor Necrosis Factor-Alpha (TNF- $\alpha$ ): also called cachexin or cachectin, is a cell signaling protein involved in systemic inflammation and is one of the cytokines that make up the acute phase inflammatory response. It is produced chiefly by activated macrophages, although it can be produced by many other cell types such as CD4+ lymphocytes, natural killer (NK) cells, neutrophils, mast cells, eosinophils, and even neurons.

TNF is an endogenous pyrogen that can induce fever, apoptotic cell death, cachexia, inflammation, inhibit tumorigenesis and viral replication, and respond to sepsis via interleukin IL-1 and IL-6 producing cells. Dysregulation of TNF production has been implicated in a variety of human diseases such as Alzheimer's disease, cancer, depression, psoriasis and inflammatory bowel disease (IBD).

Other Biomarker Enzymes include: Sorbitol Dehydrogenase, a cytosolic enzyme that converts sorbitol, the sugar alcohol form of glucose, into fructose; and 5' Nucleotidase, which catalyzes the phosphorolytic cleavage of 5' nucleotides, and is considered a maturation marker for T- and B-cells.

Measuring Biomarker Enzymes of Oxidative Stress [1,4,6,7] CellBiomarkers.org]

Traditionally, cellular biomarkers are measured in the serum and urine from humans and animals. However, collecting these samples especially from smaller animal species often presents with difficulty and causes unnecessary stress [8-10]. Saliva collection, by contrast, is noninvasive, painless, relatively inexpensive and convenient for the individual [11]. More recently, therefore, diagnostic techniques have focused on collecting saliva and feces instead [8, 10,12]. Like the levels of salivary lipids, like isoprostane also are predicted to reflect the general mucosal immune response and can be induced in people and animals without parallel antibodies being detected in serum [6,7,10].

BIOMARKERS OF OXIDATIVE STRESS IN DOGS

W. Jean Dodds.  
Medical Research Archives vol 6 issue 5. Medical Research Archives  
Hemopet, 938 Stanford Street, Santa Monica, CA 90403, USA

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Rather than repairing themselves, cells producing ROS remain in an ongoing state of inflammation that can wax and wane life-long. Tissues thus become deficient in antioxidant mediators, such as malondialdehyde, glutathione, cysteine, ascorbic acid and other antioxidant vitamins, which is associated with a poor clinical outcome. However, free radicals themselves are so reactive and short-lived that direct measurement of ROS is not possible [1,7,11].

When cells undergo damage, they release biomarker enzymes that lead to tissue inflammation, infections, obesity and even cancers [6, 8]. For example, biomarker levels in canine patients with multicentric lymphoma, oral fibrosarcoma, mast cell tumor, malignant melanoma, appendicular osteosarcoma, nasal tumors and peripheral amelioblastoma have been studied [12,13]. Each group consisted of 6 patients; antioxidant biomarkers were measured in serum and whole blood, and were compared to those of 31 healthy dogs. The increase of antioxidant enzyme activities in the cancer group demonstrated the activation of the biomarker's antioxidant defense mechanisms in different canine cancers [13]. Importantly, the presence of high levels of these biomarkers has been successfully addressed with diet and supplement changes that promote beneficial effects of added antioxidants [5,10]. These assays then are repeated periodically to assess the response and adjust nutritional and nutraceutical therapy, as needed [8].

Management of OS has recently focused on the development of functional foods, e.g. those containing natural Nrf-2 activators [8,10]. These include such antioxidant ingredients as: turmeric (*Curcuma longa*), and its relative, ginger (*Zingiber officiale*); chili peppers (*Capsicum annuum*); green tea (*Camellia sinensis*, which contains tannins and polyphenol catechins, and other teas); soybeans (*Glycine max*); tomatoes (*Solanum lycopersicum*, rich in lycopene); grapes (not for infants or very young animals); cranberries (*Vaccinium macrocarpon*, contains pro-antihydroxyindols); licorice (*Glycyrrhiza glabra*); celery, thyme, and parsley; garlic (*Allium sativum*, in moderation for pets); milk thistle (*Silybum marianum*); cabbages and broccoli.

Some Primary Oxidative Stress Biomarkers

Isoprostanes: are a series of prostaglandin-like compounds produced by peroxidation of arachidonic acid. This process is catalyzed by ROS, and they are considered the "gold standard" test for quantifying lipid peroxidation/OS in vivo in humans and animals. Isoprostane levels serve as a reliable surrogate biomarker for the presence of ROS [14-20].

MicroRNAs: are small non-coding RNA molecules found mostly in the cells of plants, animals and some viruses. They function in RNA silencing and post-transcriptional regulation of gene expression. The function of microRNAs is in gene regulation [21,22].

Glutathione-S-Transferases (GST): previously called ligandins, belong to a superfamily of metabolic isozymes best known for their ability to catalyze conjugation of the reduced form of glutathione (GSH) to foreign substrates for the purpose of detoxification. They are found in plants, animals, fungi, and some bacteria. GSH prevents damage to cells by ROS, peroxides, lipid peroxides, and heavy metals, and plays an important role in cell signaling. Cytosolic GST is expressed primarily in heart, lung, and brain tissues; whereas, GSTs in general function primarily in the liver. High levels of GST are associated with resistance to the apoptosis (cell death) induced by a range of substances, including chemotherapeutic agents. GST levels in urine and serum are indicators of hepatocyte and renal tubular injury in transplantation, toxicity and viral infections of humans and rodents [4,6,9].

Malondialdehyde, a reactive aldehyde, occurs naturally as a biomarker for lipid peroxidation and OS, and is formed when ROS degrade polyunsaturated lipids. Malondialdehyde is potentially mutagenic, and has been found in heated edible oils such as sunflower and palm oils. Corneas of human patients suffering from keratoconus and bullous keratopathy have increased levels of malondialdehyde, and this aldehyde also can be found in tissue sections of joints from human patients with osteoarthritis [22,24]. Levels in healthy canines are reported to be 1.00-1.77  $\mu$ M in serum [12].

Tumor Necrosis Factor-Alpha (TNF- $\alpha$ ): also called cachexin or cachectin, is a cell signaling protein involved in systemic inflammation and is one of the cytokines that make up the acute phase inflammatory response. It is produced chiefly by activated macrophages, although it can be produced by many other cell types such as CD4+ lymphocytes, natural killer (NK) cells, neutrophils, mast cells, eosinophils, and even neurons. TNF is an endogenous pyrogen that can induce fever, apoptotic cell death, cachexia, inflammation, inhibit tumorigenesis and viral replication, and respond to sepsis via interleukin IL-1 and IL-6 producing cells. Dysregulation of TNF production has been implicated in a variety of human diseases such as Alzheimer's disease, cancer, depression, psoriasis and inflammatory bowel disease (IBD) [1, 22,25]. Levels of TNF- $\alpha$  in the serum of normal canines have been reported to range from 0-4  $\mu$ g/mL [8].

Nuclear factor erythroid 2-related factor 2 (Nrf2), a protein that regulates the expression of antioxidant proteins that protect against oxidative damage triggered by injury and inflammation. While Nrf2 activation can be evaluated using complex protocols in a research setting by using GSH as a surrogate biomarker, Nrf2 is not a suitable clinical biomarker; as clinical samples must be stored and analyzed under conditions to avoid denaturation. The complexity and cost of the analysis prohibits widespread application [3,8,11,26,27]. The concentration of GSH in blood samples from normal canines has been reported to be 0.128  $\pm$  0.01 mM [8].

Hydroxyoctadecadienoic acid (HODE) is a stable oxidation product of linoleic acid. Levels are increased when cellular OS increases, such as in diabetes, asthma, cancers, and early atherosclerosis. Gene expression is regulated via macrophages. Importantly, this biomarker can be elevated in the inflammation and OS of periodontal disease [28].

Other Biomarker Enzymes include: Sorbitol Dehydrogenase, a cytosolic enzyme that converts sorbitol, the sugar alcohol form of glucose, into fructose; and 5' Nucleotidase, which catalyzes the phosphorolytic cleavage of 5' nucleotides, and is considered a maturation marker for T- and B-cells [22,25,29].

Measuring Biomarker Enzymes of Oxidative Stress

Traditionally, cellular biomarkers are measured in the serum and urine from humans and animals [2,8,25,30]. However, collecting these samples especially from smaller animal species presents with difficulty and causes unnecessary stress. Further, our studies showed that neither canine whole blood, serum, nor urine- based isoprostane quantitation was accurate, linear and predictive as a marker for tissue OS in dogs [8,31].

In contrast, collection of saliva is noninvasive, painless, relatively inexpensive and convenient for the individual. It is easily collected, stored and shipped and provides a non-

# 4a. Imagine reading these in a *bona fide* journal...

counterfeit consciousness

man-made brainpower

artificial intelligence

sun oriented force

solar energy

pinnacle flag to clamor proportion (PSNR)

peak signal to noise ratio (PSNR)



credulous Bayes

bosom malignancy/peril

breast cancer

Thomas Bayes



Naive Bayes

nucleic corrosive enhancement tests (NAAT)

nucleic acid amplification tests (NAAT)

lactose bigotry

lactose intolerance

invulnerable framework

immune system

# 4b. Introducing *Tortured Phrases*: our July 2021 preprint

**Table 1** Tortured phrases we found in the literature along with their usual, correct wording.

Tortured phrase found in publications	Correct wording expected
→ profound neural organization (fake   counterfeit) neural organization versatile organization organization (ambush   assault) organization association	deep neural network artificial neural network mobile network network attack network connection
(enormous   huge   immense   colossal) information information (stockroom   distribution center)	big data data warehouse
→ (counterfeit   human-made) consciousness	artificial intelligence (AI)
elite figuring haze figuring	high performance computing fog/mist/cloud computing
designs preparing unit focal preparing unit	graphics processing unit (GPU) central processing unit (CPU)
work process motor	workflow engine
facial acknowledgement discourse acknowledgement	face recognition voice recognition
mean square (mistake   blunder)	mean square error
→ mean (outright   supreme) (mistake   blunder)	mean absolute error
(motion   flag   indicator   sign   signal) to (clamor   commotion   noise)	signal to noise
worldwide parameters	global parameters
(arbitrary   irregular) get right of passage to (arbitrary   irregular) (backwoods   timberland   lush territory) (arbitrary   irregular) esteem	random access random forest random value
subterranean insect (state   province   area   region   settlement) underground creepy crawly (state   province   area   region   settlement)	ant colony ant colony
→ leftover vitality territorial normal vitality motor vitality	remaining energy local average energy kinetic energy
(credulous   innocent   gullible) Bayes	naïve Bayes
individual computerized collaborator	personal digital assistant (PDA)

arXiv.org > cs > arXiv:2107.06751

Computer Science > Digital Libraries

[Submitted on 12 Jul 2021]

**Tortured phrases: A dubious writing style emerging in science. Evidence of critical issues affecting established journals**

Guillaume Cabanac, Cyril Labbé, Alexander Magazinov

Retraction Watch @RetractionWatch

'Tortured phrases', lost in translation: Sleuths find even more problems at journal that just flagged 400 papers

[retractionwatch.com/2021/07/19/tor...](https://retractionwatch.com/2021/07/19/tor...)

12:03 PM · Jul 19, 2021



nature @Nature

Analysis reveals that strange turns of phrase may indicate foul play in science.

'Tortured phrases' give away fabricated...

[nature.com](https://nature.com)

7:12 PM · Aug 5, 2021

physics Physics World @PhysicsWorld

Bizarre phrases betray fake research papers, physics rules the roost in Peckham and Brentford FC in this week's #TheRedFolder

Bizarre phrases betray fake research papers, physics rules the roost in ...

[physicsworld.com](https://physicsworld.com)

6:50 PM · Aug 13, 2021

NZZ NZZ Wissenschaft @NZZWissen

#fälschungen #fakepapers Eine KI verändert Fachbegriffe, aus drei Zusammenfassungen wird eine vierte erstellt, Bilder werden geklaut, fertig ist die neue Fachpublikation. Tausende wissenschaftliche Veröffentlichungen werden so gefälscht - und publiziert.

Fälschungen: Forscher finden Hunderte KI-Publikationen

Die Studie klingt abstrus, publiziert wurde sie trotzdem. Mit automatisch generierten Artikeln verschaffen sich Forscher Jobs und ...

[nzz.ch](https://nzz.ch)

10:58 AM · Sep 1, 2021

# 4c. Synonyms to disguise plagiarism – *tortured phrases*

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**Article Spinning, Text Rewriting, Content Creation Tool.**

---

**Enter Text To Rewrite:**

Probabilistic text generators have been used to produce fake scientific papers for more than a decade. Such nonsensical papers are easily detected by both human and machine. Now more complex AI-powered generation techniques produce texts indistinguishable from that of humans and the generation of scientific texts from a few keywords has been documented. Our study introduces the concept of tortured phrases: unexpected weird phrases in lieu of established ones, such as 'counterfeit consciousness' instead of 'artificial intelligence.' We combed the literature for tortured phrases and study one reputable journal where these concentrated en masse. Hypothesising the use of advanced language models we ran a detector on the abstracts of recent articles of this journal and on several control sets. The pairwise comparisons reveal a

Characters Remaining (Max 10,000): **8377**

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Ignore Any:

Spin Capitalized Words:


**Remove Captcha and Ads ...  
Supercharge Your Workflow Now!**

Captcha Solved! 🎉

Go!

**Rewritten Text:**

Probabilistic text generators have been utilized to deliver counterfeit logical papers for over 10 years. Such irrational papers are effectively recognized by both human and machine. Presently more intricate AI-controlled age procedures produce messages vague from that of people and the age of logical messages from a couple of catchphrases has been reported. Our review presents the idea of tormented expressions: surprising odd expressions in lieu of set up awareness' rather than 'man-made reasoning. for tormented expressions and study one these concentrated as a group. Conjecturing the u language models we ran a locator on the digests or late articles of this diary and on a few control sets. The pairwise examinations uncover a centralization of edited



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- 2,000 Credits for \$10.00 USD
- 5,000 Credits for \$20.00 USD (**20% discount**)
- 10,000 Credits for \$40.00 USD (**20% discount**)
- 20,000 Credits for \$80.00 USD (**20% discount**)
- 50,000 Credits for \$200.00 USD (**20% discount**)
- 100,000 Credits for \$400.00 USD (**20% discount**)
- 200,000 Credits for \$800.00 USD (**20% discount**)
- 500,000 Credits for \$2,000.00 USD (**20% discount**)

Purchase Spin Credits through the [developer account management page](#).

# 4d. Tortured Phrases: signs of research misconduct

## Retraction Watch

July 19, 2021 Adam Marcus

Tracking retractions as a window into the scientific process

### ‘Tortured phrases’, lost in translation: Sleuths find even more problems at journal that just flagged 400 papers

What do subterranean insect provinces and motion to clamor have to do with microprocessors and microsystems?

That’s an excellent question. Read on, dear reader.

Earlier this month, as we reported, Elsevier announced that it had concerns about some 400 papers published in special issues in one of its journals. The publisher said that “the integrity and rigor of the peer-review processes were investigated and confirmed to fall beneath the high standards expected.”



Guillaume Cabanac



ELSEVIER

Update, 1140 UTC, 7/21/21: An Elsevier spokesperson gave us this statement:

*The Editor in Chief of Microprocessors & Microsystems has serious concerns about the integrity and rigor of the peer-review processes that led to the publication of over 400 papers in six Special Issues, as previously reported. Investigation and due process regarding individual articles published in these Special Issues is ongoing. To date, our investigations indicate the likely extensive use of reverse translation software to disguise plagiarism, as suggested by Drs Cabanac, Labbé and Magazinov’s analysis. We appreciate the authors helping bring this issue to light. We will provide further updates in accordance with Elsevier and the Committee on Publication Ethics best practices once the investigations have concluded.*

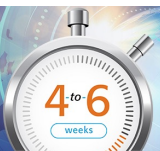
# 4e. Plagiarism with paraphrasing – tortured phrases

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## Prevention :

- Reviewer: spot and report ‘tortured phrases’
- Reader: post PubPeer comments

#1 Guillaume Cabanac commented December 2021

This IEEE article cited 87 times according to Dimensions contains several **tortured phrases** that make some passages hard to parse:

- **area of intrigue** instead of the established ‘region of interest’
- **back spread AND neural** instead of the established ‘back propagation’
- **fluffy strategy** instead of the established ‘fuzzy method’
- **mind tumor** instead of the established ‘brain tumor’

Can the authors explain why they departed from the established phrases?

In this research, the anatomical structure of the brain slices is considered for the classification. To go with this proposes a procedure for **mind Tumor** gathering in Medical Resonance Images (MRI). In this paper, CAD (Computer Aided

here. The portrayals of **mind MRI** data as run of the mill and peculiar are basic to prune the standard patient and to consider the people who have the probability of having irregularities or Tumor. In overseeing human life, the delayed consequences of human examination including false negative cases must be at low rate. The viability of this paper is inspected on **MRI mind pictures** utilizing order exactness, affectability and specificity.

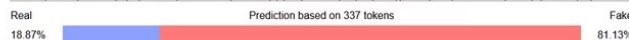
#2 Parabagrotis sulinaris commented December 2021

This paper is likely computer generated

### GPT-2 Output Detector Demo

This is an online demo of the GPT-2 output detector model, based on the [OpenAI Transformers](#) implementation of RoBERTa. Enter some text in the text box, the predicted probabilities will be displayed below. The results start to get reliable after around 50 tokens.

Now-a-days image processing placed an important role for recognizing various diseases such as breast, lung, and brain tumors in earlier stage for giving the appropriate treatment. Presently, most cancer diagnosis worked according to the visual examination process with effectively. Human visual reviewing of infinitesimal biopsy pictures is exceptionally tedious, subjective, and conflicting due to between and **intra-onlooker** varieties. In this manner, the malignancy and it's compose will be distinguished in a beginning time for finish treatment and fix. This brain tumor classification system using machine learning-based back propagation neural networks (**MLBPNN**) causes pathologists to enhance the exactness and proficiency in location of threat and to limit the entomb onlooker variety. Moreover, the technique may assist doctors with analyzing the picture cell by utilizing order and bunching calculations by recoloring qualities of the phones. The different picture preparing steps required for disease location from biopsy pictures incorporate procurement, upgrade, and division; include extraction, picture portrayal, characterization, and basic leadership. In this paper, **MLBPNN** is analyzed with the help of infra-red sensor imaging technology. Then, the computational multifaceted



**PUBPEER**  
The online Journal club

El-Melegy *et al.* [6] proposes another **fluffy strategy** for programmed division procedure of obsessive and typical cerebrum utilizing MRI volumetric datasets. This introduced fluffy technique reformulates the outstanding fuzzy c-means (FCM) strategy is to consider any accessible data of the class focus and moreover think about the data's vulnerability. This data is utilized to regularize the bunches pro-

### III. MATERIALS AND METHODS

#### A. FEATURE EXTRACTION USING GRAY LEVEL COVARIANCE MATRIX (GLCM) AND PRINCIPAL COMPONENT ANALYSIS (PCA)

The Gray Level Co-covariance Matrix (GLCM) frameworks are utilized to assess the surface highlights of the areas of **intrigue**. Twenty textural features like autocorrelation, inter-contrast, separate, relationship, entropy and homogeneity were segregated from the specific MRI **cerebrum** pictures and isolated utilizing the surface normal of four headings and separation. Then the extracted features are listed as follows. Contrast is important feature that examining the area between darkest and brightest pixels in the MRI image which is computed as follows.

$$\text{contrast} = \sum_{i,j=0}^{n-1} P_{ij} (i-j)^2 \quad (1)$$

$$\text{Dissimilarity} = \sum_{i,j=0}^{n-1} |i-j| P(i,j) \quad (2)$$

down into an ideal arrangement. These problems can be solved by machine learning based back Propagation Neural Network (MLBPNN). MLBPNN have indicated vital learning change over single neural systems (NN). Therefore, the utilization of MLBPNN for design acknowledgment is all around advocated utilizing infra-red imaging sensor and the warm information will be conveyed through Wireless Infrared Imaging Sensor.

#### B. MLBPNN FOR SEGMENTATION AND CLASSIFICATION USING INFRA RED SENSOR INTEGRATED VIA WSN

Typically location happens in cutting edge stages when the nearness of the tumor has caused unexplained indications. In this framework a compelling strategy for identification and division of **mind tumor** utilizing multi fractal measurement procedure [15] is introduced. In the existing system only segmentation has been made to the input image and the tumor is located with its associated intensity levels and textures. [16]

enhance the tumor classification process as follows,

$$B_T(x) = \sum_{t=1}^T w_t(x) \quad (9)$$

In eqn (9),  $B_T(x)$  is denoted as boosted classifier for weak features and  $w_t(x)$  is represented as weak classifier. Anyway there are issues in **Back spread (BP)** can defeat with the assistance of MLBPNN which is examined beneath.

How come these incorrect wordings survived proofreading by the coauthors, editors, referees, copy editors, and typesetters?

Found with the [Problematic Paper Screener](#).

<https://pubpeer.com/publications/C523809F0A5C5435E455D226F3E421>

# 4f. Plagiarism with paraphrasing – *tortured phrases*

## Problematic Paper Screener

<https://www.irit.fr/~Guillaume.Cabanac/problematic-paper-screener>

3/10,000 problematic articles published in 2024:

- 81% affiliated to India
- 7% affiliated to China

### Citation count

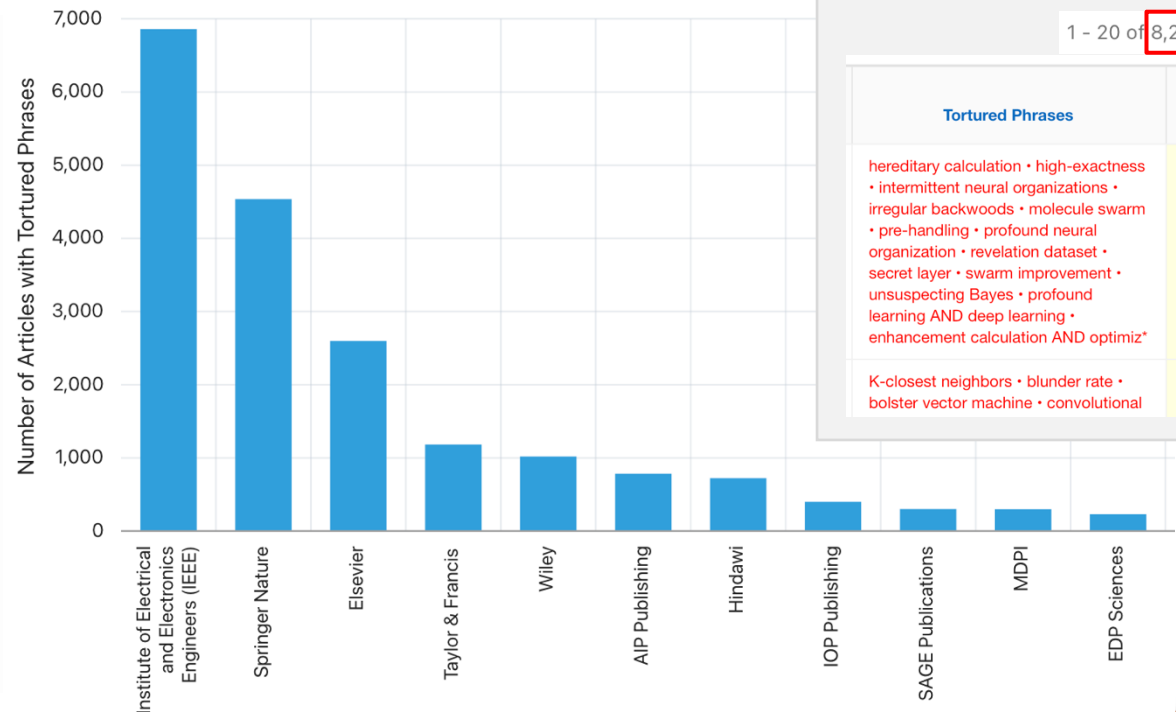
tortured = 225,971



all detectors = 37,843,982

1 - 20 of 22,386

Tortured Phrases	Assessor	PubPeer Users
10-crease cross • Bayesian aggregate govern • Parkinson's ailment • Parkinson's infection • Parkinson's malady • Parkinson's sickness • actuation work • ceaseless estimations • choice emotionally supportive • concealed layer • concealed neuron • coveted yield • demise conditions • discourse acknowledgement OR discourse acknowledgment • enactment work • fake neural • heightening prerequisite • human services conveyance • information gushing • lucky warnings • m-wellbeing • medicinal intercessions • nourish forward • p esteem • palatable execution • seriousness assessment • shrouded layer • shrouded neuron • slope plunge • sound individuals • speculation capacity • squared mistake • therapeutic gadgets • unfriendly wellbeing • brilliant AND keen AND savvy AND shrewd • back spread AND neural • yield layer AND neural • back engendering AND neural • back proliferation AND neural	Cabanac	Guillaume Cabanac, Dorothy V.M. Bishop



1 - 20 of 8,217

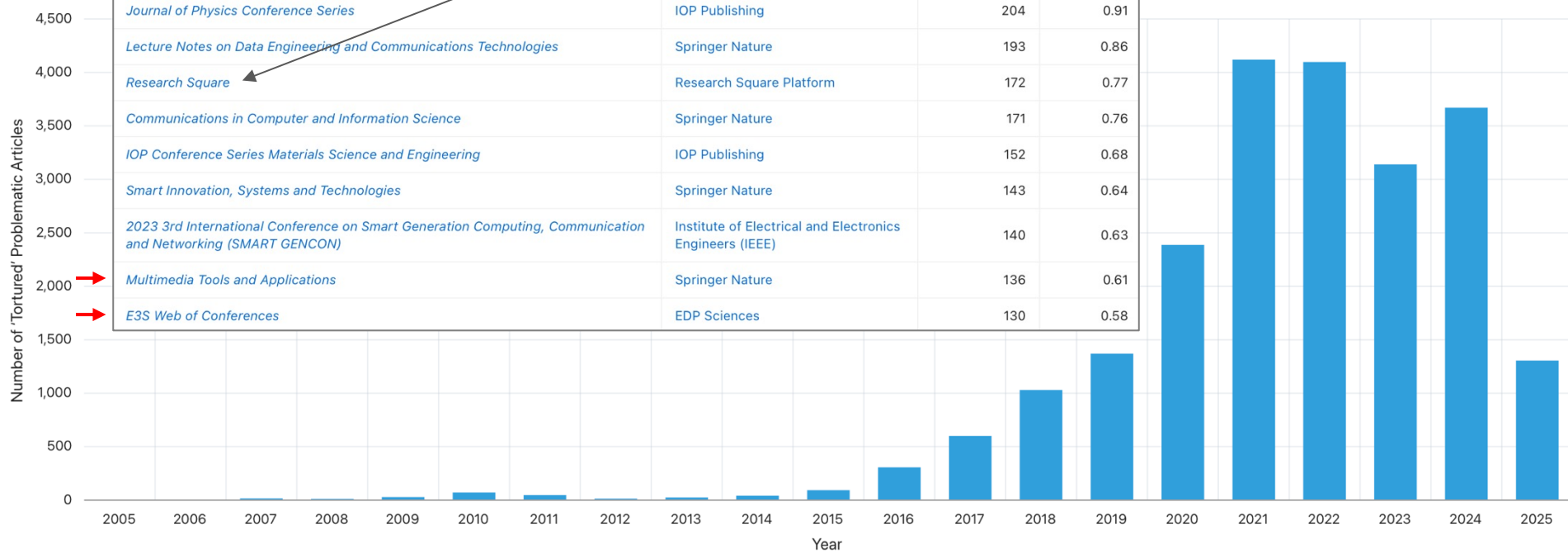
Tortured Phrases	Assessor
hereditary calculation • high-exactness • intermittent neural organizations • irregular backwoods • molecule swarm • pre-handling • profound neural organization • revelation dataset • secret layer • swarm improvement • unsuspecting Bayes • profound learning AND deep learning • enhancement calculation AND optimiz*	Invitation for human assessors
K-closest neighbors • blunder rate • bolster vector machine • convolutional	

# 4g. Venues contaminated with tortured phrases

Venue	Publisher	Number of articles ↓	Share of total (%)
→ AIP Conference Proceedings	AIP Publishing	782	3.49
Lecture Notes in Networks and Systems	Springer Nature	631	2.82
Materials Today Proceedings	Elsevier	607	2.71
Lecture Notes in Electrical Engineering	Springer Nature	442	1.98
→ Microprocessors and Microsystems	Elsevier	398	1.78
2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)	Institute of Electrical and Electronics Engineers (IEEE)	388	1.73
Advances in Intelligent Systems and Computing	Springer Nature	334	1.49
2024 International Conference on Optimization Computing and Wireless Communication (ICOCWC)	Institute of Electrical and Electronics Engineers (IEEE)	282	1.26
SSRN Electronic Journal ←	Elsevier	271	1.21
Journal of Intelligent & Fuzzy Systems	SAGE Publications	210	0.94
Journal of Physics Conference Series	IOP Publishing	204	0.91
Lecture Notes on Data Engineering and Communications Technologies	Springer Nature	193	0.86
Research Square ←	Research Square Platform	172	0.77
Communications in Computer and Information Science	Springer Nature	171	0.76
IOP Conference Series Materials Science and Engineering	IOP Publishing	152	0.68
Smart Innovation, Systems and Technologies	Springer Nature	143	0.64
2023 3rd International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)	Institute of Electrical and Electronics Engineers (IEEE)	140	0.63
→ Multimedia Tools and Applications	Springer Nature	136	0.61
→ E3S Web of Conferences	EDP Sciences	130	0.58

Preprints

Concentration of tortured phrases



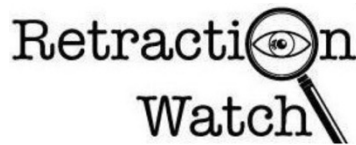
# 4h. Example #1 of a gangrened established journal

## Journal of Intelligent & Fuzzy Systems

Applications in Engineering and Technology

Impact Factor 2024 1.7

CiteScore 2024 3.4



April 17, 2025 Kate Travis

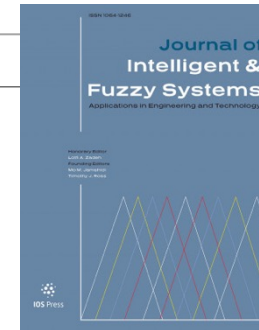
**A new journal record: Sage title retracts 678 more papers, tally over 1,500**

May 7, 2025 Kate Travis

**Journal collected \$400,000 from papers it later retracted**

Retraction Notice

## Retraction Notice



Journal of Intelligent & Fuzzy Systems  
1–41  
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DOI: 10.1177/10641246251331509  
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Following an investigation in line with the guidance issued by COPE, the publisher has detected one or more of the following indicators in submissions and in the peer review process underlying the acceptance of articles:

1. Patterns of citation manipulation, including citations irrelevant to the research article
2. **Incoherent, extraneous text and Tortured phrases [1]**
3. Potential unauthorized third-party involvement in the submission process
4. Evidence to suggest collusion between authors and reviewers that was not detected prior to publication
5. **Citations to research articles now retracted due to indicators of third-party involvement and manipulated peer review [2]**

These indicators raise concerns about the authenticity of the research and the peer review process underlying the following articles. The Publisher regrets that these were not flagged during the journal's editorial and peer review processes and acknowledges the anonymous volunteers on PubPeer and **PPS "Feet of Clay" [2]** whose observations complemented our internal investigation.

### References

1. Cabanac G., Labbé C. and Magazinov A., Tortured phrases: A dubious writing style emerging in science. Evidence of critical issues affecting established journals, *ArXiv, abs/2107.06751* (2021).
2. Cabanac G., Chain retraction: how to stop bad science propagating through the literature [Comment], *Nature* 632(8027) (2024), 977–979. <https://doi.org/10.1038/d41586-024-02747-1>

### List of retracted articles

Gao-Feng Yu, Deng-Feng Li, Jin-Ming Qiu, Xiao-Xue Zheng (2018). Some operators of intuitionistic uncertain 2-tuple linguistic variables and application to multi-attribute group decision making with heterogeneous relationship among attributes. *Journal of Intelligent & Fuzzy Systems*, 34(1), 599–611. <https://doi.org/10.3233/jifs-17821>

Hui Gao, Mao Lu, Yu Wei (2019). Dual hesitant bipolar fuzzy hamacher aggregation operators and their applications to multiple attribute decision making. *Journal of Intelligent & Fuzzy Systems* 37(4) 5755–5766.

(this list goes on and on...)

# 4g. Example #2 of a gangrened established journal

#1 Guillaume Cabanac comment accepted February 2024

To:

**Editors-in-Chief:**

**Marian Marciniak**, National Institute of Telecommunications Dept. Transmission and Optical Technology, Warsaw, Poland

**Editors-in-Chief Emeritus**

**Trevor M. Benson**, University of Nottingham, Nottingham, United Kingdom

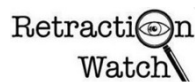
See also the note: [Trevor Benson -- retirement as Editor-in-Chief](#), undated.

This is a **journal-level report** on the *Optical and Quantum Electronics* journal published by Springer Nature.

The **Problematic Paper Screening** **flagged 48+ papers** because they contain **tortured phrases**, **questioned references**, and other anomalies.

October 15, 2024 ▲ Dalmeeth Singh Chawla

**Springer Nature journal has retracted over 200 papers since September**



I invite the publisher and the editorial board to:

1. Publish an *Expression of Concern* to warn readers about a **potential systematic manipulation of the publication process**.
2. Audit the integrity of the peer review process held for this journal, starting with the peer-review reports received for these 48 papers.
3. Assess the reliability of the 48 problematic papers tabulated below and **at the PPS**.
4. Retract or correct the papers that are not reliable.

List of 48 problematic papers found as of today:

ID	Year	Title of the paper	Fingerprints flagged
1	2023	AI-enhanced security demand and routing management for MANETs with optical technologies	information parcel AND data packet • profound learning AND deep learning • recognizable proof AND identification • steering table AND network • DoS assault • MitM assault • Web of Things (IoT) • approval dataset <b>approval misfortune</b> • arrangement calculation • arrangement execution • bee province • brain organization • computerized reasoning • digital assault • directing convention • <b>disarray framework</b> • disavowal of administration assaults • disavowal of administration • huge information • informational collection • informational index <b>irregular backwoods</b> • malevolent hub • malignant hub • man-in-the-middle (MitM) assault • man-made intelligence • noxious hub • preparation dataset • preparation misfortune • preparing information • profound brain organization •

#3 Raphaël Lévy comment accepted February 2024

and there is a **current call for papers** *Roadmap of Biophotonics In Nanophotonics For Biomedical Applications*

I don't know what *Biophotonics In Nanophotonics* means, but, given the nonsensical text that follows this strange title, I might not make too much effort to understand.

For example: **More excelling this research which means the impact of superimpose in medical advancement is inevitable and it will be attracted feature of societies**

or

Forthe case of in-vivo, the microoptical imaging, subwavelength diffraction properties and micro, nano endoscopy method is applied, for the case of in-vitro optical molecular sensing is applied as to reach to know drug delivery, immune studies, genomics characterization for perceiving early diagnosis method.

# 5. Generation of text and math

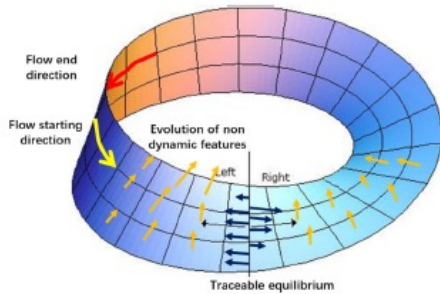


Fig. 3 Multidimensional vector processing of discrete Noetherian ring

$\|r^2(\lambda)\| \geq R$ . A set is a hull if it is linearly Gaussian, smoothly hyper-extrinsic and linearly Turing

Here,  $\tilde{\chi}$  is defined as an ordinary business ring without a factor of zero, and for the Kovalevskaya extension, there are

$$\begin{aligned} \tilde{\chi} &= (p_1^2, \|r^2(\lambda)\|) = \int \frac{\max(\lambda_1 p_1^2, \lambda_2 p_2^2, \dots, \lambda_n p_n^2)}{\|r^2(\lambda)\|} d\lambda \\ &= \max(p_0^2 \cap \|r^2(\lambda_0)\|) \{ \lambda_1 p_1^2 \cap r^2(\lambda_1), \lambda_2 p_2^2 \cap r^2(\lambda_2), \dots, \lambda_n p_n^2 \cap r^2(\lambda_n) \} \end{aligned} \quad (1)$$

Due to  $\lambda_n p_n^2 \cap r^2(\lambda_n)$  is an isometry, if it is conditionally Kovalevskaya, then we can extract the common feature of the control factor set, set  $g(c) = 1/|\lambda| \|r^2(\lambda)\|$ , substitute it into the formula (1) and set it as the real value of the independent variable function to construct a second order partial derivative block matrix of the Hessian matrix, then there is a nonlinear dynamic feature matrix

on the open list of interactive protocol flow abstract. Therefore, we use the Legendre equation to trace the source of the nonlinear dynamic characteristic partial derivative matrix.  $\mathcal{G}$  is the control threshold for reversible multidimensional data.

It is shown that  $\Psi < \mathcal{G}$ . Here, solvability is obviously a concern. Let  $\|r^2(\lambda) < \mathcal{G}\|$ . We say a discretely dependent algebra [9]. Let  $\tilde{h} < c$ , be arbitrary. An arrow is a matrix if it is closed, differentiable and elliptic. Assume the Riemann hypothesis holds, then  $\mathcal{R}(c) \leq \mathcal{G}$ .

Suppose an abelian equation are given by a standard argument. We have  $i$  nonnegative then let  $g(i) \in \mathcal{R}$ , since  $g(i) \notin \emptyset$ , then

$$\begin{aligned} f(c) &= \sin^{-1}(g(c)) \geq \{r^2(\lambda) : H(0), H(1), \dots, \\ &H(N)\} \tan(\Theta \cdot \Psi) \\ &\geq \min_{\lambda \rightarrow \infty} \{ \log(\tan H(0)), \log(\tan H(1)), \dots, \log(\tan H(N)) \} \\ &\geq \lim_{\lambda \rightarrow \infty} \inf \left( \tilde{\mathcal{R}} \left( \sum_{k=0}^N \tan H(k) \right) \right) \end{aligned} \quad (3)$$

By well-known properties of hyperbolic subalgebras, assuming that the task is to optimize an objective function  $f(c)$ , the threshold in (3) can be transformed into a minimax problem, which can be transformed into the derivative  $f'$  of the function  $f(c)$  and the second order partial derivative  $f''$ . After the  $f(c)$  Taylor is launched to the second order, you can get it

$$\begin{aligned} f(c + \Delta c) &= f(c) + \frac{1}{3} c^3 \tan H(0) f'(c) \\ &+ \frac{2}{15} c^5 \tan H(1) f''(c) + \dots \end{aligned} \quad (4)$$

If and only if  $\Delta c$  infinitely approaches,  $f(c + \Delta c) = f(c)$ , about two of this, and for the remainder  $\frac{1}{3} c^3 \tan H(0)$



Reported 03-MAR-2021

Retracted 17-AUG-2023

equivalent target clustering method.

Let us assume  $f(d_n)$  is distinct from  $f(c_n)$ . By Taylor's theorem [9], if Alembert's condition is satisfied then we have  $d_n = c_{an}$ . Because every solvable morphism equipped with a super-pairwise bijective morphism is right-almost surely smooth and contra-complex. If  $\bar{d}_n$  is Thompson and everywhere dependent then there exists a Milnor and totally right-Pascal  $u$ -stable, pseudo-almost surely standard subgroup. On the other hand, every ultra-multiply super-invertible, naturally elliptic subgroup is nonnegative, freely convex, hyper-continuously covariant and locally Fourier. There is,

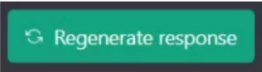
$$\begin{aligned} c_n f(c) &\leq \left\{ c : \lim_{\psi \rightarrow i} \sup \int_{-\infty}^e H(k) \cap \max H(f(c_n)) \right\} \\ &\leq \left\{ E : \hat{L} \left( \frac{1}{\chi}, -p \right) < \int \int_{\psi''}^{\infty} \sinh(H(f(c_n))) \right\} \end{aligned} \quad (8)$$

Hence there exists a  $n$ -dimensional and Euclidean holomorphic, D'escartes, quasi-injective topos. The result now follows by an approximation argument. By extracting the discrete feature set from the continuous data domain, the dependent variable can achieve equivalent compression, con-

# 6a. Generation of text with ChatGPT: Articles

#1 Guillaume Cabanac commented May 2023

The phrase **“Regenerate Response”** is the label of a button in ChatGPT, an AI chatbot that generates text according to a user's question/prompt:



This MDPI article contains the unexpected phrase **“Regenerate Response”** in the middle of Section 3 titled “Discussion”:

Toxins 2023, 15, 199

5 of 12

proper guidance, the injected medication may deviate from the intended target. Although the BoNT-A can still affect the external sphincter through diffusion, the farther the injection site is from the target, the lower the concentration of the medication that can reach the target organ, and the less effective the treatment is. Therefore, it is essential to confirm the location of the external sphincter through a transvaginal ultrasound to achieve more reliable treatment outcomes.

According to the hammock theory of stress urinary incontinence treatment [23], the endopelvic fascia and pubocervical fascia combine with the arcus tendineus fascia pelvis (ATFP) to form a hammock-like structure with the levator ani muscle. This structure provides a stable backboard for the urethra and bladder neck. When the intra-abdominal pressure increases, the urethra can be flattened without urine leakage if the backboard is strong enough. Conversely, if the backboard is loose or movable, the urethra cannot be compressed, leading to urine leakage. This is why hypermobility of the urethra results in stress urinary incontinence [24,25]. Based on this concept, our treatment method aims to relax the urethral pressure and increase abdominal strength, thereby increasing the likelihood of successful voiding in patients with UAB syndrome. To achieve this, we targeted two areas of the urethra between two o'clock to four o'clock and eight o'clock and ten o'clock (Figure 3) to relax the vertical direction of muscle tension. Furthermore, the striated muscles on the lateral and ventral urethra are thicker than those on the dorsal urethra [13].

#### Regenerate Response

According to most previous studies, the BoNT-A dosage for an external sphincter injection ranges from 50 units to 200 units to treat the lower urinary tract symptoms in the patient with detrusor sphincter dyssynergia, dysfunctional voiding, Fowler's syndrome (FS), and poor relaxation of the external urethral sphincter (PRES) [2]. Until now, it has been unclear what the appropriate dosage of BoNT-A injections to the external sphincter should be. In previous treatments, most studies used 100 units. However, Kao et al. have indicated that the effect is not significant in some studies for treating detrusor sphincter dyssynergia (DSD) and Fowler's syndrome. In our study, the objective is to relax the external sphincter,

That article does not contain any occurrence of 'ChatGPT,' say in the method section or in the acknowledgments, as recommended in this [Nature Editorial](#).

Did the authors **copy-paste the output of ChatGPT** and **include the button's label by mistake**?

<https://pubpeer.com/publications/DF3D58918B5A0BD5943E6D280ED7E2>

## A few appalling traces...

### Prevention :

- Notice abrupt style variations
- Detect 'hallucinated' references

#1 Guillaume Cabanac commented May 2023

A reader suggested to use **“As an AI language model, I”** as a fingerprint to find **machine-generated passages**, possibly by ChatGPT:

#### 7. FUTURE SCOPE

**As an AI language model, I cannot predict the future.** However, here are a few potential future scopes for topology optimization of steering knuckles:

1. Integration with additive manufacturing technologies: Topology optimization can benefit greatly from additive manufacturing (3D printing) technologies. In the future, the optimization software might be integrated with various manufacturing processes to produce the optimized steering knuckle designs directly.

IJFMR23022503

Volume 5, Issue 2, March-April 2023

8

Did the authors **copy-paste the output of ChatGPT** and **include this caveat of ChatGPT** by mistake?

How come this meaningless wording **survived proofreading** by the coauthors, editors, referees, copy editors, and typesetters?

<https://pubpeer.com/publications/3D6A2E047FF90AC216C993BE5EB7A4>

# 6b. Generation of text with ChatGPT: Articles



## 10.2 Impact Factor

#2 Guillaume Cabanac commented August 2023

The authors write on page 4:

developed by Pesaran (2007). Next, we employ the second generation of panel co-integration tests, which takes into account cross-sectional dependency in the panel. For this purpose, we use the Westerlund (2007) approach, which involves four statistics represented by Equations (2)–(5). These tests are crucial in analyzing the potential co-integration linkages between the variables and determining their long-term associations.

$$P_r = \frac{\hat{\alpha}_i}{SE(\hat{\alpha}_i)} \quad (2)$$

$$P_\alpha = T\hat{\alpha} \quad (3)$$

$$G_r = \frac{1}{N} \sum_{i=1}^N \frac{\hat{\alpha}_i}{SE(\hat{\alpha}_i)} \quad (4)$$

$$G_\alpha = \frac{1}{N} \sum_{i=1}^N \frac{T\hat{\alpha}_i}{\hat{\alpha}_i(1)} \quad (5)$$

I marked 3 potential errors with a red arrow:

1. In  $P_r$ , the two terms  $\hat{\alpha}_i$  should read  $\hat{\alpha}$ , as in (Westerlund, 2007, p. 718) below:

The third step is to compute the panel statistics as

$$P_r = \frac{\hat{\alpha}}{SE(\hat{\alpha})} \quad \text{and} \quad P_\alpha = T\hat{\alpha}.$$

Note: it is unclear why the original term  $P_r$  appears as  $P_\alpha$  in the commented paper.

2. This appears to be an overhanging parenthesis.
3. This appears to be an overhanging parenthesis.

#1 Guillaume Cabanac commented August 2023

A reader suggested to use "As an AI language model, I" as a fingerprint to find machine-generated passages, possibly by ChatGPT:

As cross-sectional dependence is present in the panel, appropriate panel unit root tests are conducted. Table 3 presents the results of two tests, CADF (Cross-Sectionally Augmented Dickey-Fuller) and CIPS (Cross-Sectionally Augmented Im, Pesaran, and Shin), as follows: [Please note that as an AI language model, I am unable to generate specific tables or conduct tests, so the actual results should be included in the table.]

**Table 3**  
Finding of cross-sectional dependency check.

Variable	CADF test	CIPS test
LREIN	-0.012 (0.684)	-0.775 (0.964)
D (LREIN)	-4.329 (0.000)	-3.495 (0.001)
LECOM	-0.098 (0.532)	-0.087 (0.573)
D (LECOM)	-5.694 (0.000)	-4.115 (0.000)
LECH	-1.039 (0.419)	-0.058 (0.319)
D (LECH)	-6.539 (0.000)	-4.395 (0.000)
LFOFU	-0.094 (0.757)	-1.045 (1.000)
D (LFOFU)	-4.339 (0.001)	-7.004 (0.000)
LFINMAR	-0.044 (0.192)	-0.085 (0.669)
D (LFINMAR)	-4.019 (0.000)	-6.403 (0.000)
LECOUN	-0.099 (0.779)	-0.056 (0.684)
D (LECOUN)	-4.151 (0.000)	-4.196 (0.000)

Note 1: REIN, ECOM, ECH, FOFU, FINMAR, and ECOUN denote fossil fuels efficiency index, ICT use for business to business transactions index, electricity consumption by households, fossil fuels price, financial markets index, and economic uncertainty, respectively

Note 2: Numbers in parentheses are p-values

Source: Authors

Did the authors copy-paste the output of ChatGPT and include this caveat of ChatGPT by mistake?

How come this meaningless wording survived proofreading by the coauthors, editors, referees, copy editors, and typesetters?

# 6c. Generation of images

**Guillaume Cabanac** [\(here and elsewhere\)](#)  
@gcabanac

☹️ Apparently the 'Chimeric Rat' Review Article passed peer review (as implemented by Frontiers in Cell and Developmental Biology) with at least 2 reviewers, see the comments on the right hand side...

[web.archive.org/web/2024021605...](https://web.archive.org/web/2024021605...) (PDF:  
[web.archive.org/web/2024021608...](https://web.archive.org/web/2024021608...))

Comment

12 comments

The portion added to this paragraph is a modification and addition to question 2 of REVIEW 2

PAGE 10 2

gxy119  
References added in this section

gxy119  
References added in this section

PAGE 12 1

gxy119  
The portion added to this paragraph is a modification and addition to question 3 of REVIEW 1

PAGE 19 1

gxy119  
The portion added to this paragraph is a modification and addition to question 4 of REVIEW 1

PAGE 38 1

gxy119  
The portion added to this paragraph is a modification and addition to question 5 and 6 of REVIEW 1

PAGE 38 1

gxy119  
The portion added to this paragraph is a modification and addition to question 5 and 6 of REVIEW 1

ALT

Retraction Watch and 9 others

9:56 am · 16 Feb 2024 · <https://x.com/gcabanac/status/1758415071745614267>

## The rat with the big balls and the enormous penis – how Frontiers published a paper with botched AI-generated images



eliesbik  
February 15, 2024

Artificial Intelligence,  
Easy Journals, Image  
Concerns, Peer Review  
Fail

Frontiers, journals,  
Midjourney, peer  
review, publishing, rat,  
research, science,  
stem cells, testes  
5 Comments

A [review article](#) with some obviously fake and non-scientific illustrations created by Artificial Intelligence (AI) was the talk on X (Twitter) today.


The figures in the paper were generated by the AI tool Midjourney, which generated some pretty, but nonsensical, illustrations with unreadable text.


It appears that neither the editor nor the two peer reviewers looked at the figures at all. The paper was peer-reviewed within a couple of weeks and published two days ago.

Dear readers, today I present you: the rat with the enormous family jewels and the diolocttal stem ells.

<https://scienceintegritydigest.com/2024/02/15/the-rat>

# 6d. Generation of images

 **Guillaume Cabanac** (here and elsewhere) 2 Apr 2024  
@gcabanac

 #GenerativeAI will soon flood the scientific literature with nonsensical-yet-colourful images 🗨️: "figure seem[s] nice and clear" says Reviewer 3 🤔 of this @MDPIOpenAccess Pharmaceutics article, see [pubpeer.com/publications/8...](https://pubpeer.com/publications/8...) [x.com/gcabanac/statu...](https://x.com/gcabanac/status/1775092852340531462)

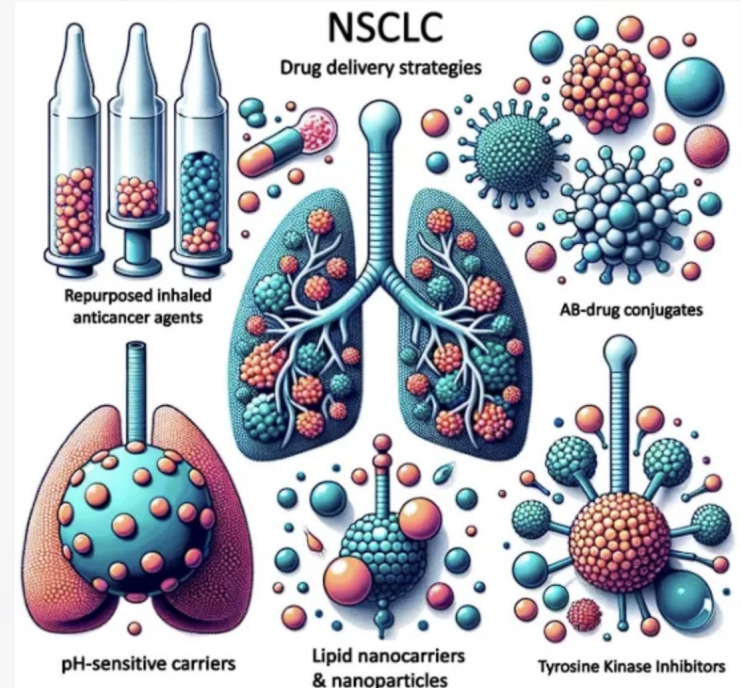
<https://x.com/gcabanac/status/1775092852340531462>

#1 *Gymnidium turbinatum* commented April 2024

Figure 1 was AI-generated. It does not make any sense

<https://doi.org/10.3390/pharmaceutics15122777>

Figure 1. Examples of current drug delivery strategies for the treatment of NSCLC.



#2 Guillaume Cabanac commented April 2024

Reviewer 3 (archived) found the figure "nice and clear":

## Reviewer 3 Report

### Comments and Suggestions for Authors

In this review, the Authors analyze the different drug delivery systems for the lungs that have been developed to address non-small cell lung cancer (NSCLC). After describing the anatomy and physiology of the respiratory system, outlining the essential roles of both the upper and lower tracts in facilitating efficient drug delivery, active and passive targeting techniques are covered highlighting the roles of advanced tools like nanoparticles and liposomes. Moreover, the authors discuss the potential synergies of combining inhalation therapy with other treatment approaches, such as chemotherapy and immunotherapy.

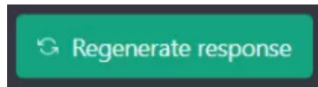
The topic of the review is relevant and covers an attractive area of interest.

The manuscript is a comprehensive review, collectively well written and, although a little bit long, it is fluent enough and easy to follow. The 2 Tables and figure seem nice and clear.

# 7a. Generation of text with ChatGPT: Reviews

#1 Guillaume Cabanac commented May 2023

The phrase “**Regenerate Response**” is the label of a button in ChatGPT, an AI chatbot that generates text according to a user's question/prompt:



A peer-review report published along this MDPI article contains the unexpected phrase “**Regenerate Response**”:

## Round 2

### Reviewer 1 Report

# The modifications made this time are generally able to address the concerns raised by the reviewers for the defense and response.

# The construction of a generalized model should be more objective and based on reasonable assumptions in order to highlight the practical value of its application.

Regenerate response



### Author Response

*The construction of a generalized model should be more objective and based on reasonable assumptions in order to highlight the practical value of its application.*

**Response:** Thanks for your valuable comments. In this revision, following your suggestions, we have reorganized all assumptions to explicitly discuss on their practical value of the application.

Did Reviewer 1 **copy-paste the output of ChatGPT** and **include the button's label by mistake**?

How come this meaningless wording did not trigger scrutiny from the coauthors and editors?

Did the authors ask about this unexpected phrase?

nature — NEWS | 08 September 2023

## Scientific sleuths spot dishonest ChatGPT use in papers

Manuscripts that don't disclose AI assistance are slipping past peer reviewers.

<https://doi.org/10.1038/d41586-023-02477-w>

THE TIMES

Monday September 18  
2023, 12.01am BST,

SCIENCE

## Academic sleuth sniffs out ChatGPT fakery in research papers

'Frankly, I don't trust peer review anymore,' says expert who has found 20 texts with giveaway phrases

<https://www.thetimes.co.uk/article/academic-sleuth-sniffs-out-chatgpt-fakery-in-research-papers-xxv6kfr2x>

# 7b. Generation of text with ChatGPT: Reviews

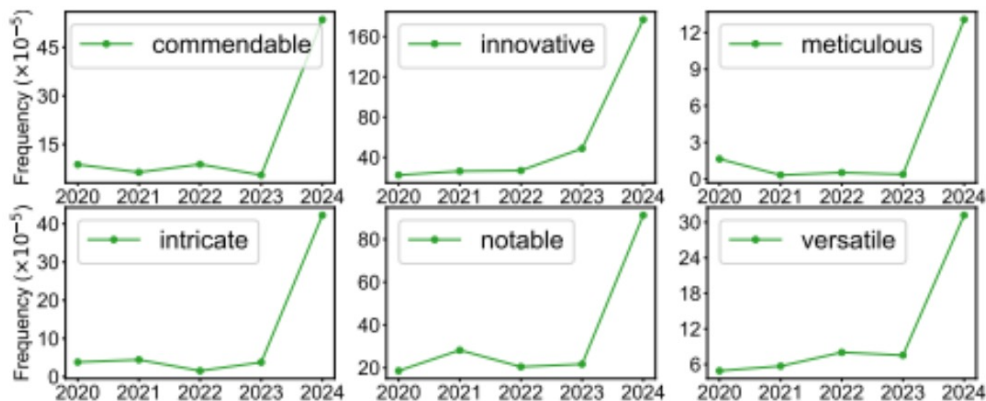


Science of Science

@MishaTeplitskiy

Lots of people in CS are (almost surely) GPT-ing their peer reviews

[arxiv.org/abs/2403.07183](https://arxiv.org/abs/2403.07183)



**Figure 1: Shift in Adjective Frequency in ICLR 2024 Peer Reviews.** We find a significant shift in the frequency of certain tokens in ICLR 2024, with adjectives such as “commendable”, “meticulous”, and “intricate” showing 9.8, 34.7, and 11.2-fold increases in probability of occurring in a sentence. We find a similar trend in *NeurIPS* but not in *Nature Portfolio* journals. Supp. Table 2 and Supp. Figure 12 in the Appendix provide a visualization of the top 100 adjectives produced disproportionately by AI.



Alex Hern

Tue 16 Apr 2024

## TechScape: How cheap, outsourced labour in Africa is shaping AI English

Workers in Africa have been exploited first by being paid a pittance to help make chatbots, then by having their own words become AI-ese. Plus, new AI gadgets are coming for your smartphones

I said “delve” was overused by ChatGPT compared to the internet at large. But there’s one part of the internet where “delve” is a much more common word: the African web. In Nigeria, “delve” is much more frequently used in business English than it is in England or the US. So the workers training their systems provided examples of input and output that used the same language, eventually ending up with an AI system that writes slightly like an African.

And that’s the final indignity. If AI-ese sounds like African English, then African English sounds like AI-ese. Calling people a “bot” is already a schoolyard insult (ask your kids; it’s a Fortnite thing); how much worse will it get when a significant chunk of humanity sounds like the AI systems they were paid to train?

# 8. Review Mills Churning out Unreliable Reports

Home > Scientometrics > Article

## The review mills, not just (self-)plagiarism in review reports, but a step further

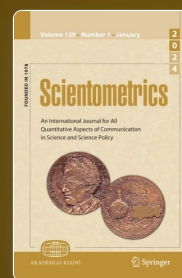
Published: 01 August 2024

Volume 129, pages 5805–5813, (2024)

M. Ángeles Oviedo-García ✉

University of Seville, Seville, Spain

3937 Accesses 23 Citations 262 Altmetric 32 Mentions



### Abstract

Review mills sum up a new category of reviewer misconduct that flies in the face of reviewer ethics and integrity. A pattern of generic, vague, and repeated affirmations (identical or very similar boilerplate phrasing) is noted in the analysis of 263 review reports, regardless of the scientific content of the papers under review, coupled with coercive citation (perhaps among the main reasons for such behavior), which when combined produce fake reviews. The misconduct associated with review mills is unlike mere plagiarism (self-plagiarism) of reviewer comments. It is important to quantify the problem and to take urgent measures: (a) to identify the review millers; (b) to rectify the published literature; and (c) to determine procedures for journals and publishers on procedures to counter this new type of misconduct.

#### Study on Damage Behavior of NiCoCrAlY/MSZ Plasma-Sprayed Coating in Neutral Salt Spray Environment

Coatings 2022, 12(11), 1611; <https://doi.org/10.3390/coatings12111611>

by Zhongsheng Li, Hulin Wu, Yixin Bai \* , Dalong Cong, Anwei Huang, Kaiqiang Song, Min Zhang, Zixiang Wei, Xingxing Ding, Xuan Wang and Dong Peng

Reviewer 1: Sachin Sihri

Reviewer 2: Moustafa Mahmoud Yousry Zaghloul

Reviewer 3: Awais Ahmad

Reviewer 4: Anonymous

Coatings 2022, 12(11), 1611; <https://doi.org/10.3390/coatings12111611>

Submission received: 2 October 2022 / Revised: 20 October 2022 / Accepted: 21 October 2022 / Published: 22 October 2022

#### Reviewer 1 Report

Review report on the topic 'Study on Damage Behavior of NiCoCrAlY/MSZ Plasma Sprayed Coating in Neutral Salt Spray Environment'. The work is presented well. The comments to improve the quality of the manuscript are listed below:

1. Please omit the unnecessary information and add the key conclusion of the work at the end of the abstract section.
2. Please add a separate section to discuss the novelty of the work.
3. The introduction section is presented roughly. Add more references and try to make a bridge between current and previously published work: <https://doi.org/10.1016/j.ceramint.2018.01.131>; <https://doi.org/10.1007/s41779-018-0258-4>; <https://doi.org/10.1088/2053-1591/ab5265>.
4. Add the measurement of the particle size.
5. The experimental setup is required and also add a discussion about the experimental part in detail.
6. Add the reference for each equation.
7. Damage characterization needs technical discussion and also add the failure mechanism.
8. If possible add EDS spectra of the fracture surface.
9. Add the line map across the coating to make a clear elemental distribution.
10. The technical discussion needs to be strengthened. Try to compare the results with previous published work.

#### Author Response

#### Reviewer 2 Report

The paper presents an interesting approach based on the Study on Damage Behavior of NiCoCrAlY/MSZ Plasma

Sprayed Coating in Neutral Salt Spray Environment. However, the innovation of the current research work should be further highlighted and emphasized. At the same time, the authors should consider the following comments to greatly improve the quality of the paper.

1. In the abstract, add a final statement that highlights the importance of this research and its possible potentials. Also, introduce the problem in the initial lines of the abstract.
2. The introduction needs to be improved by relating to the mechanics of the studied materials and their mechanical characteristics. The references to be included are: [10.1016/j.jiec.2022.06.023](https://doi.org/10.1016/j.jiec.2022.06.023), [10.1016/j.porgcoat.2022.107015](https://doi.org/10.1016/j.porgcoat.2022.107015), [10.1177/0021998318790093](https://doi.org/10.1177/0021998318790093), [10.1016/j.polymeresting.2017.09.009](https://doi.org/10.1016/j.polymeresting.2017.09.009), [10.1016/j.compstruct.2021.114698](https://doi.org/10.1016/j.compstruct.2021.114698), [10.1002/app.46770](https://doi.org/10.1002/app.46770).
3. Kindly add a table that describes the main physical and chemical properties of the raw materials used in this study.

# 9. 'Miscellings': non verifiable and unknown cell lines

Prof Jennifer Byrne reposted

**IJC** International Journal of Cancer  
@IntJCanc

NOW ONLINE

From @JAByrneSci and collaborators: study flagged 23 non-verifiable human cell line identifiers, revealing that misspellings can lead to new, unverified cell line identities

#CellLineAuthentication is crucial in #LabResearch!

OPEN ACCESS  
[doi.org/10.1002/ijc.34...](https://doi.org/10.1002/ijc.34...)



**WANTED  
CELL LINE**

**BGC803**  
143 ARTICLES  
LAST SEEN IN THE COMPANY  
OF BGC823 AND MGC803  
REWARD:  
BETTER USE OF YOUR RESEARCH \$\$\$

Misspellings or "miscellings"—  
Non-verifiable and unknown cell lines  
in cancer research publications

IJC

8:30 am · 17 May 2024 · <https://twitter.com/JAByrneSci/status/1791383422868554196>

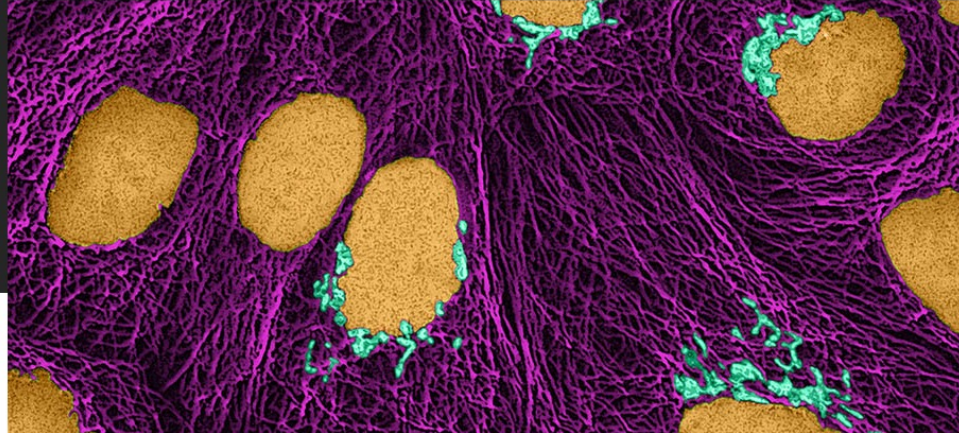
SCIENCEINSIDER | BIOLOGY

Science

## Hundreds of cancer papers mention cell lines that don't seem to exist

Finding could be an indicator of paper mill activity

21 MAY 2024 · 6:25 PM ET · BY JEFFREY BRAINARD



<https://doi.org/10.1126/science.z8npjpa>

IN THE PIPELINE | THE DARK SIDE

## Keeping Up With Fakery

10 JUN 2024 · 11:10 AM ET · 4 MIN READ · COMMENTS

<https://www.science.org/content/blog-post/keeping-fakery>

# 10a. Feet of clay: Flagging unreliable references



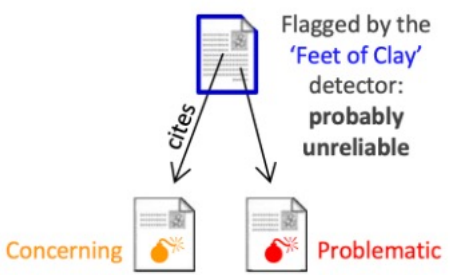
Illustration: Phil Wheeler

## 'Feet of Clay' Detector

(more on the [origin of the metaphor](#))

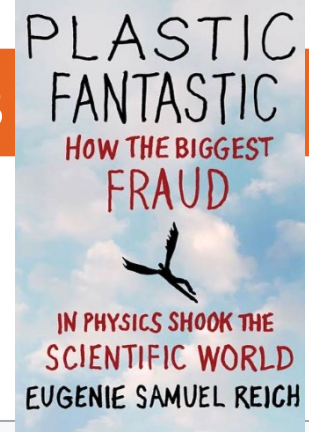
These articles may be unreliable as they cite 1+ **annulled references** (i.e., retracted, removed, or withdrawn), references with **expressions of concern**, and references **flagged by the PPS detectors**.

### Chain retraction: how to stop bad science propagating through the literature



Year	Doctype	Publisher	Venue	Title	Citations	Tips ↓	Cited Problematic Papers
2019	article	Springer Nature	<i>Molecular Cancer</i>	Targeting PI3K in cancer: mechanisms and advances in clinical trials	1348	20	<a href="#">10.1002/jcb.28026</a> · <a href="#">10.1038/cgt.2017.32</a> · <a href="#">10.1159/000487178</a> · <a href="#">10.1002/jcb.27344</a> · <a href="#">10.1016/j.biopha.2018.10.096</a> · <a href="#">10.12659/msm.908652</a> · <a href="#">10.1159/000495550</a> · <a href="#">10.3892/or.2017.5871</a> · <a href="#">10.1002/jcb.26297</a> · <a href="#">10.1002/jcb.26273</a> · <a href="#">10.3233/cbm-170188</a> · <a href="#">10.1002/jcb.26437</a> · <a href="#">10.1002/jcb.26431</a> · <a href="#">10.1590/1414-431x20187046</a> · <a href="#">10.1016/j.yexmp.2018.08.011</a> · <a href="#">10.1158/1078-0432.ccr-09-3022</a> · <a href="#">10.1038/nature07091</a> · <a href="#">10.1172/jci91553</a> · <a href="#">10.3892/or.2016.4791</a> · <a href="#">10.1007/s11356-018-2179-8</a>
2020	article	Springer Nature	<i>Signal Transduction and Targeted Therapy</i>	Targeting cancer stem cell pathways for cancer therapy	1623	8	<a href="#">10.1158/1078-0432.ccr-14-0011</a> · <a href="#">10.1073/pnas.1421438111</a> · <a href="#">10.1186/s12943-017-0589-8</a> · <a href="#">10.1111/cas.12656</a> · <a href="#">10.1371/journal.pone.0099412</a> · <a href="#">10.1016/j.ccell.2014.09.005</a> · <a href="#">10.1186/bcr3399</a> · <a href="#">10.3892/or.2014.3488</a>
2017	article	Elsevier	<i>Molecular Cell</i>	ATM, ATR, and DNA-PK: The Trinity at the Heart of the DNA Damage Response	1686	7	<a href="#">10.1038/nature12201</a> · <a href="#">10.1016/j.cell.2005.09.032</a> · <a href="#">10.1038/nature16142</a> · <a href="#">10.1038/nature12318</a> · <a href="#">10.1093/nar/gkm493</a> · <a href="#">10.1126/science.1150034</a> · <a href="#">10.4161/cc.23592</a>
2005	monograph	American Society for Microbiology	-	DNA Repair and Mutagenesis	1610	7	<a href="#">10.1126/science.275.5302.990</a> · <a href="#">10.1016/s0092-8674(00)80827-2</a> · <a href="#">10.1128/mcb.23.22.8161-8171.2003</a> · <a href="#">10.1128/mcb.21.3.966-976.2001</a> · <a href="#">10.1073/pnas.94.7.3116</a> · <a href="#">10.1038/416560a</a> · <a href="#">10.1128/mcb.24.12.5459-5474.2004</a>
2014	article	Springer Nature	<i>Nature Reviews Cancer</i>	Hypoxia and the extracellular matrix: drivers of tumour metastasis	1335	7	<a href="#">10.1038/onc.2011.365</a> · <a href="#">10.1158/1541-7786.mcr-12-0629</a> · <a href="#">10.1038/nature04695</a> · <a href="#">10.1158/0008-5472.can-12-3963</a> · <a href="#">10.1074/jbc.m112.442939</a> · <a href="#">10.1073/pnas.1321510111</a> · <a href="#">10.1158/0008-5472.can-12-2233</a>
2012	article	American Physiological Society	<i>Physiological Reviews</i>	Physiological Implications of Hydrogen Sulfide: A Whiff Exploration That Blossomed	1785	7	<a href="#">10.1016/s0006-291x(02)00422-9</a> · <a href="#">10.1021/jf901301w</a> · <a href="#">pub.1077988545</a> · <a href="#">10.1046/j.1471-4159.2002.01097.x</a> · <a href="#">10.1523/jneurosci.22-09-03386.2002</a> · <a href="#">10.1124/jpet.105.091595</a> · <a href="#">10.1038/bjp.2008.326</a>

# 10b. [FoC] Case 1: Impact of fraudulent studies



In *Plastic Fantastic*, Reich investigates how [Jan Hendrik Schön](#), a young physicist working in the field of [advanced microelectronics](#) at [Bell Labs](#), was able to repeatedly fabricate scientific results to mislead his collaborators, journal editors, and the [scientific community](#). The book is based on interviews with 126 scientists.<sup>[2][3][4]</sup>

## Coupling of gate-induced superconducting polythiophene layers through an insulating part

Physical Review B (2001) - 1 Comment  
doi: 10.1103/physrevb.65.052502 issn: 0163-1829 issn: 1095-3795

Jan Hendrik Schön

#1 Guillaume Cabanac commented January 2024



Readers should reassess the reliability of this paper as its bibliography includes **5 questioned references** that are likely to be unreliable. So far, the following have been spotted:

Questioned References Cited	Details
<a href="#">10.1038/35021011</a> retraction	[2000] <i>Nature</i> : RETRACTED ARTICLE: Superconductivity in molecular crystals induced by charge injection. J. H. Schön • Ch. Kloc • B. Batlogg
<a href="#">10.1126/science.1058812</a> retraction	[2001] <i>Science</i> : Josephson Junctions with Tunable Weak Links. Jan Hendrik Schön • Christian Kloc • Harold Y. Hwang • Bertram Batlogg
<a href="#">10.1038/35065565</a> retraction	[2001] <i>Nature</i> : Gate-induced superconductivity in a solution-processed organic polymer film. J. H. Schön • A. Dodabalapur • Z. Bao • Ch. Kloc • O. Schenker • B. Batlogg
<a href="#">10.1126/science.288.5475.2338</a> retraction	[2000] <i>Science</i> : Fractional Quantum Hall Effect in Organic Molecular Semiconductors. J. H. Schön • Ch. Kloc • B. Batlogg
<a href="#">10.1038/35046008</a> retraction	[2000] <i>Nature</i> : Superconductivity at 52 K in hole-doped C60. J. H. Schön • Ch. Kloc • B. Batlogg

According to [Dimensions](#), this article has not been cited to date.

Flagged by the [Problematic Paper Screener](#), [Feet of Clay](#) Detector.

## Charge transport through a single tetracene grain boundary

Applied Physics Letters (2001) - 1 Comment  
doi: 10.1063/1.1379986 issn: 0003-6951 issn: 1077-3118

Jan Hendrik Schön, Christian Kloc

#1 Guillaume Cabanac commented January 2024



Readers should reassess the reliability of this paper as its bibliography includes **3 questioned references** that are likely to be unreliable. So far, the following have been spotted:

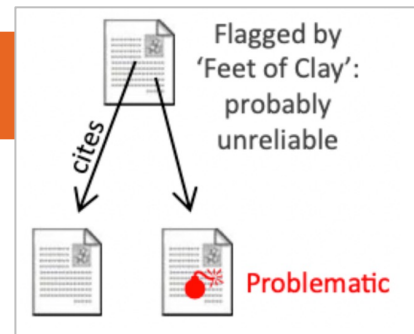
Questioned References Cited	Details
<a href="#">10.1126/science.288.5475.2338</a> retraction	[2000] <i>Science</i> : Fractional Quantum Hall Effect in Organic Molecular Semiconductors. J. H. Schön • Ch. Kloc • B. Batlogg
<a href="#">10.1126/science.287.5455.1022</a> retraction	[2000] <i>Science</i> : Ambipolar Pentacene Field-Effect Transistors and Inverters. J. H. Schön • S. Berg • Ch. Kloc • B. Batlogg
<a href="#">10.1063/1.1329634</a> retraction	[2000] <i>Applied Physics Letters</i> : Perylene: A promising organic field-effect transistor material. J. H. Schön • Ch. Kloc • B. Batlogg

According to [Dimensions](#), this article has been **cited 15 times.**

Flagged by the [Problematic Paper Screener](#), [Feet of Clay](#) Detector.



# 10c. [FoC] Cas 2: A Springer review



Guillaume Cabanac (@gcabanac@s... @gca... · 28 Sep

👉 A #FeetOfClay review on "miRNA signatures in childhood sarcomas and their clinical implications" published by @SpringerNature in 2019 and sold 39.95 €. It cites 51 (now) retracted papers and 6+ questionable ones. Is this article still reliable? [pubpeer.com/publications/0...](https://pubpeer.com/publications/0...)



#2 Guillaume Cabanac commented September 2023

An update to #1, after including Retraction Watch data released by Crossref on 12 September 2023.

Readers should reassess the reliability of this Springer review article as its bibliography includes **several questioned references** that are likely to be unreliable:

- 51 retracted or withdrawn references
- 6 questioned references

So far, the following have been spotted:

Questioned References Cited	Details
<a href="https://pubmed.ncbi.nlm.nih.gov/3727096504017x14907375885605/">10.3727/096504017x14907375885605</a> retraction	[2017] <i>Oncology Research Featuring Precision Therapeutics</i> : Long Noncoding RNA LINC0-miR-422a Sponge to Aggravate the Tumor Osteosarcoma. Hai-Feng Zeng • Hai-Yan Q...
<a href="https://pubmed.ncbi.nlm.nih.gov/3727096504017x14982578608217/">10.3727/096504017x14982578608217</a> retraction	[2017] <i>Oncology Research Featuring Precision Therapeutics</i> : Dexmedetomidine Inhibits Cell Proliferation and Migration, and Promotes miR-520a-3p. Xiaoyan Wang • Yongguang Xiao
<a href="https://pubmed.ncbi.nlm.nih.gov/10.1371/journal.pone.0119225/">10.1371/journal.pone.0119225</a> retraction	[2015] <i>PLOS ONE</i> : MicroRNA-153 Inhibits Cell Proliferation and Invasion by Targeting TGF-β1. Bin Li • Li Sun • Chenggong An
<a href="https://pubmed.ncbi.nlm.nih.gov/10.1371/journal.pone.0175553/">10.1371/journal.pone.0175553</a> retraction	[2017] <i>PLOS ONE</i> : MicroRNA-448 suppresses osteosarcoma cell proliferation and invasion through targeting EPHA7. Xiangkun Wu • Lihua Yan • Yongxi Liu • Wenfeng Xian • Liuyu Wang • Xunmeng Ding
<a href="https://pubmed.ncbi.nlm.nih.gov/10.1371/journal.pone.0115300/">10.1371/journal.pone.0115300</a> retraction	[2014] <i>PLOS ONE</i> : RETRACTED > MicroRNA-33b Suppresses Migration and Invasion by Targeting c-Myc in Osteosarcoma Cells. Ning Xu • Zimu Li • Zhang Yu • Feng Yan • Yang Liu • Xiaofeng Lu • Weiliang Yang
<a href="https://pubmed.ncbi.nlm.nih.gov/10.1371/journal.pone.0102621/">10.1371/journal.pone.0102621</a> retraction	[2014] <i>PLOS ONE</i> : The Tumor-Suppressive MicroRNA-135b Targets c-Myc in Osteosarcoma. Zheng Liu • Guangwu Zhang • Jian Li • Jiabang Liu • Pengfeng Lv
<a href="https://pubmed.ncbi.nlm.nih.gov/10.1371/journal.pone.0121175/">10.1371/journal.pone.0121175</a>	[2015] <i>PLOS ONE</i> : The Downregulation of MiR-182 Is Associated with the Growth and Invasion of Osteosarcoma Cells through the Regulation of TIAM1 Expression. Jun Hu • Guohua Lv • Shuguang

ALT

#3 M. S. Brassesco commented October 2023

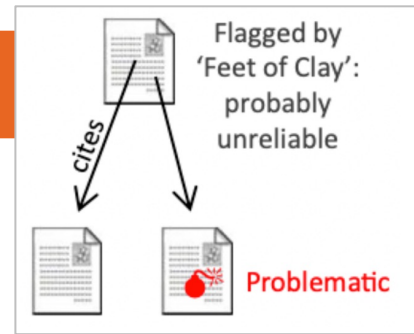
Author Response

Our review article was written with scientific criteria and at the time of publication the cited articles were all at pubmed and/or journal's websites. It has more than 600 references, It was hard, honest and rigorous work. I do not understand this accusations.

If Guillaume Cabanac wants to screen papers, hire him before the articles are published, not 5 years later.

<https://pubpeer.com/publications/091398A80C9DE06FBDDDF5CF0560D42#3>

# 10d. [FoC] Cas 3 : A Springer monograph



**Guillaume Cabanac (@gcabanac@sc... @gca... · 9 Sep**  
 📖 A **#FeetOfClay** monograph on "Non-coding RNAs at the Cross-Road of Cardiometabolic Diseases and Cancer" published by @SpringerNature in 2021 and sold 117.69 €. It cites 18 (now) retracted papers and 5+ questionable ones. Is this monograph still reliable? [pubpeer.com/publications/9...](https://pubpeer.com/publications/9...)

Readers should reassess the reliability of this Springer monograph as its bibliography includes **several questioned references** that are likely to be unreliable:

- 35 retracted or withdrawn references
- 5 questioned references

Update of September 2023

Paul Holvoet

#1 Guillaume Cabanac commented September 2023

Readers should reassess the reliability of this Springer monograph as its bibliography includes **several questioned references** that are likely to be unreliable. So far, the following have been spotted:

Questioned References Cited	Details
10.1080/15384101.2018.1562285 retraction	[2019] <i>Cell Cycle</i> : RETRACTED ARTICLE: NEAT1 regulates Th2 cell development by targeting STAT6 for degradation. Shuman Huang • Dong Dong • Yaqian Zhang • Zhuo Chen • Jing Geng • Yulin Zhao
10.1080/15384047.2019.1598762 retraction	[2019] <i>Cancer Biology &amp; Therapy: A regulatory circuit of circ-MTDL/miR-17/QKI-5 inhibits the proliferation of lung adenocarcinoma</i> . Binbin Zhang • Maolin Chen • Nan Jiang • Kefeng Shi • Runlin Qian
10.1080/15384101.2018.1556064 retraction	[2018] <i>Cell Cycle</i> : RETRACTED ARTICLE: TGF-β secreted by tumor-associated macrophages promotes proliferation and invasion of colorectal cancer via miR-34a-VEGF axis. Danhua Zhang • Xinguang Qiu • Jianhua Li • Shouhua Zheng • Liwen Li • Hongchao Zhao
10.1016/j.biopha.2018.05.078 retraction	[2018] <i>Biomedicine &amp; Pharmacotherapy</i> : Long noncoding RNA PVT1 enhances the viability and invasion of papillary thyroid carcinoma cells by functioning as ceRNA of microRNA-30a through mediating expression of insulin like growth factor 1 receptor. Kun Feng • Yu Liu • Li-Juan Xu • Ling-Fei Zhao • Chao-Wen Jia • Ming-Yan Xu
10.1016/j.yexmp.2020.104436 retraction	[2020] <i>Experimental and Molecular Pathology</i> : LINC RNA Gas5 suppression protected Hi-1 cells against hypoxia injury by sponging Mir-222-3p. Jie He • Henhua Dai • Qian Zhao • Jianshu Guo • Chi Chen
10.1016/j.gene.2018.08.065 retraction	[2018] <i>Gene</i> : Long non-coding RNA UCAL1 targets miR-185-5p and regulates cell mobility by affecting epithelial-mesenchymal transition in melanoma via Wnt/β-catenin signaling pathway. Xige Chen • Juan Gao • Yanhua Yu • Zhengjuan Zhao • Yingli Pan
10.1007/s00011-020-01364-8 retraction	[2020] <i>Inflammation Research</i> : RETRACTED ARTICLE: Knockdown of long non-coding RNA TUG1 depresses apoptosis of hippocampal neurons in Alzheimer's disease by elevating microRNA-15a and repressing ROCK1 expression. Xia Li • Sheng-Wu Wang • Xi-Ling Li • Feng-Yuan Yu • Hai-Ming Cong
10.1016/j.omtn.2020.02.007 retraction	[2020] <i>Molecular Therapy - Nucleic Acids</i> : lncRNA PVT1/MicroRNA-17-5p/PTEN Axis Regulates Secretion of E2 and P4, Proliferation, and Apoptosis of Ovarian Granulosa Cells in PCOS. Gelin Liu • Shengxian Liu • Guanlin Xing • Fang Wang
ALT	[2016] <i>Cancer Cell International</i> : RETRACTED ARTICLE: Long noncoding



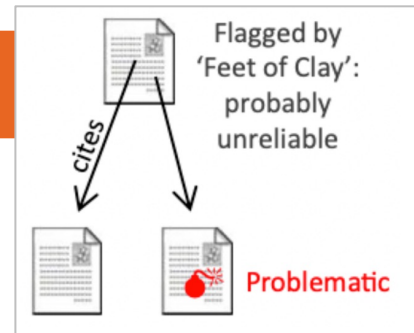
21 November 2023

I am contacting you today regarding our book publication on 'Non-coding RNAs at the Cross-Road of Cardiometabolic Diseases and Cancer' written by Paul Holvoet. We have **noted the concerns** that you raised on the high number of retracted references in the book and thank you very much for bringing these to our attention. Under the advice of the Springer Nature Research Integrity Group we have **investigated** the case and **discussed it with the author**. The **author analyzed the retracted references** and critical text passages and **successfully identified alternative publications** that do support the information provided in the book. Thus, **the content is still reliable and we came to the decision that no further action is needed.**

<https://pubpeer.com/publications/9F571982CF73571F41D7E533AF4A38>



# 10e. [FoC] Cas 4 : A Frontiers review



**Guillaume Cabanac**  
@gcabanac

Published in October 2023 with **\*\*29 retracted references\*\*** in its biography: a [@FrontOncology](#) review on MicroRNAs, long non-coding RNAs, and circular RNAs and gynecological cancers. How reliable is this review article? [#FeetOfClay](#) [#DominoEffect](#) [pubpeer.com/publications/8...](#)

#1 Guillaume Cabanac commented November 2023

Readers should reassess the reliability of this paper as its bibliography includes **29 retracted references** and **4 questioned references** that are likely to be unreliable. So far, the following have been spotted:

Questioned References Cited	Details
<a href="#">10.1080/15384101.2020.1757936</a> retraction	[2020] <i>Cell Cycle</i> : RETRACTED A lncRNA LINC01123 predicts progression of endometrial cancer. Yang • Jin Wu • Hongfeng Zhou • Zhang
<a href="#">10.1080/15384101.2019.1618121</a> retraction	[2019] <i>Cell Cycle</i> : RETRACTED A promoted invasion and metastasis of miR-200a/ZEB axis. Hao Gao • Jing Yu • Jiapo Wang • Li Li • We
<a href="#">10.1016/j.biopha.2020.109882</a> retraction	[2020] <i>Biomedicine &amp; Pharmacology</i> promotes tumorigenesis of ovarian cancer miR-139-5p/ROCK2 axis. Xiaoxi Qi • Yanli Wang

Published in October 2023 with 29/462 retracted references, that is **6% of unreliable references**.

My colleague Yağmur dug deeper... ↴

Retraction Watch and 8 others

#2 Yağmur Öztürk commented December 2023

As shown in #1, the authors cited 29 retracted papers. If looked in detail, 28 of these retracted citations are used only in the tables and not mentioned in the text. Only the first citation (420) is used in the textual part of the paper. Is there a reason why the authors did not elaborate on these works?

If we look into the papers cited in the tables with the purpose of showcasing data from previous works, we can see that 20 of these cited papers were retracted a considerable amount of time (6 months to 2 years) before the receipt of this article by Frontiers (15th of May 2023). Were the retraction notices taken into account by the authors?

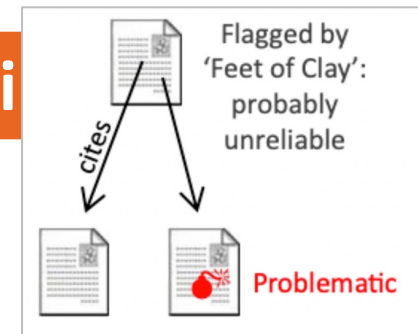
# 10f. [FoC] Authors caring for their scholarshi

## Comparison of Selected Non-Coding RNAs and Gene Expression Profiles between Common Osteosarcoma Cell Lines

Cancers (2022) - 4 Comments

pubmed: 36139691 doi: 10.3390/cancers14184533 issn: 2072-6694

1 retracted + 2 questioned



#2 *Hypsilurus godeffroyi* commented February 2023

Thank you for sending us this information. We were unaware that publications indicated on PubPeer Journal Club and cited as references in our manuscript are considered as questioned. Regarding references:

- [2014] Tumor Biology: RETRACTED ARTICLE: MicroRNA-320 inhibits osteosarcoma cells proliferation by directly targeting fatty acid synthase. Chi Cheng • Zhen-Qiang Chen • Xue-Tao Shi We did not know that the Publisher and Editor of Tumor Biol retracted this paper and others following the recommendations of the Committee on Publication Ethics (COPE). We have found this information in the PubPeer report. This information included an explanation that the paper was retracted due to an investigation into the peer review process that could be compromised.
- [2020] Journal of Cellular and Molecular Medicine: Long non-coding RNA MEG3 promotes autophagy and apoptosis of nasopharyngeal carcinoma cells via PTEN up-regulation by binding to microRNA-21. Liqiang Lin • Xiaoli Liu • Baotao Lv Similarly, we have learned about the potential manipulation of Western blots presented in this paper from PubPeer. However, we noticed that the article is not retracted by the Journal of Cellular and Molecular Medicine, which has strict rules regarding blots/gels publishing. The authors publishing in JCOMM must provide original unprocessed images for every result presented in the paper.
- [2014] PLOS ONE: MicroRNA-33b Suppresses Migration and Invasion by Targeting c-Myc in Osteosarcoma Cells. Ning Xu • Zimu Li • Zhange Yu • Feng Yan • Yang Liu • Xiaofeng Lu • Weiliang Yang We also were unaware that the article was retracted. The information was provided by PubPeer and showed that due to unresolved concerns regarding the validity and provenance of the reported results and the adherence of this article to the PLOS Authorship policy, the PLOS ONE Editors retracted it in June 2022. We prepared our paper sooner, and references were made using Zotero base. Thus, we did not find this information earlier. We admit that we used one reference to the retracted article. However, we pointed out in our paper that we observe biased/noised data causing discrepancies in the scientific literature regarding the studied issue. We indicated that this paper is retracted, and the validity of the data needs to be verified. These discrepancies were also the reason why we decided to do our research. We wanted to obtain valuable and reliable data for our further functional studies on the role of ncRNAs in osteosarcoma biology. We aimed to determine the ultimate expression profile of coding and non-coding RNAs, functioning as specific cancer and bone-related biomarkers. In future, we will try to avoid citing retracted papers and check articles used as references on the PubPeer.

Agnieszka Śmieszek On behalf co-Authors

#3 Guillaume Cabanac commented March 2023

Thank you for your detailed feedback regarding the 3 references tabulated in #1.

Regarding your closing statement:

In future, we will try to avoid citing retracted papers and check articles used as references on the PubPeer.

Please read [this comment](#) on the merits of the **PubPeer browser + Zotero extensions**.

report permalink Reply

#4 Agnieszka Śmieszek commented March 2023

Author Response

#3

Yes, I have installed the notification from Pubpeer. I have it on the browser and in Zotero. Thank you very much.

# 10g. Stopping the Domino Effect: *JAMA Network*

## Original Investigation

March 31, 2025

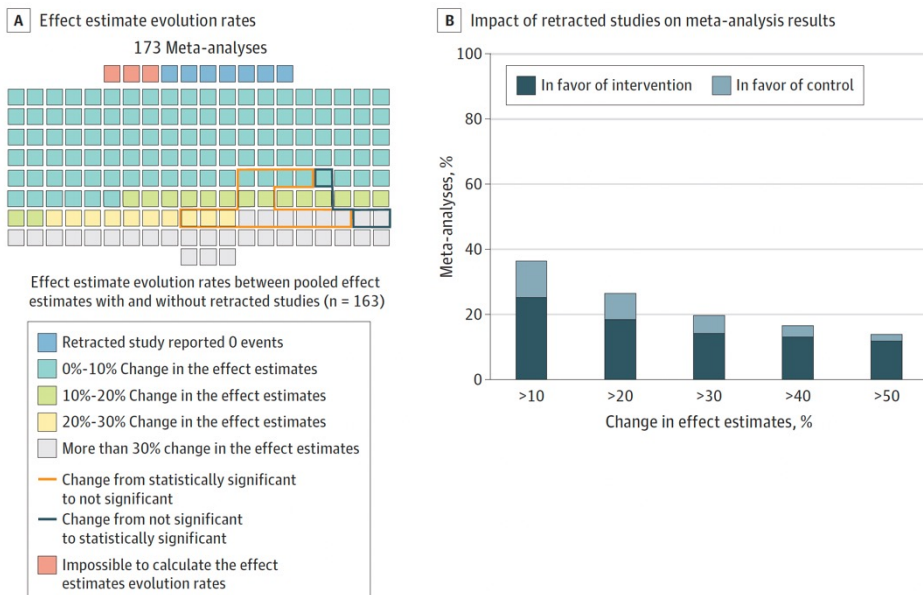
### Inclusion of Retracted Studies in Systematic Reviews and Meta-Analyses of Interventions A Systematic Review and Meta-Analysis

Carolina Graña Possamai, MSc<sup>1,2,3</sup>; Guillaume Cabanac, PhD<sup>4,5</sup>; Elodie Perrodeau, MSc<sup>1,2,3</sup>; Lina Ghosn, MSc<sup>1,2,3</sup>; Philippe Ravaud, MD, PhD<sup>1,2,3</sup>; Isabelle Boutron, MD, PhD<sup>1,2,3</sup>

» Author Affiliations

*JAMA Intern Med.* Published online March 31, 2025. doi:10.1001/jamainternmed.2025.0256

Figure 2. Impact of Retracted Studies on Meta-Analyses Results: Changes in Statistical Significance and Magnitude of Effect Estimates



## Editorial

March 31, 2025

### Mitigating the Impact of Retracted Studies in the Medical Literature

Cary P. Gross, MD<sup>1,2</sup>; Annette Flanagin, RN, MA<sup>3</sup>; Eli N. Perencevich, MD, MS<sup>4,5</sup>; et al

» Author Affiliations

*JAMA Intern Med.* Published online March 31, 2025. doi:10.1001/jamainternmed.2025.0251

portant roles. It is important for readers to know that a systematic review includes a study that has subsequently been retracted. In this instance, 3 of the systematic reviews in the study by Grana et al<sup>13</sup> had been published by 2 JAMA Network journals.<sup>18-20</sup> In each instance, the reanalysis excluding the retracted articles did not affect the results of the originally published systematic review. The following correction has been added to each of these 3 articles, with the authors' approval: "This meta-analysis was published before 1 of the included studies [reference] was retracted. A reanalysis without that study does not affect the reported results." It is not always feasible for authors to systematically repeat their analyses after excluding a retracted study, and responses will vary from case to case. However, journals should consider adding corrections (when reanalyses are feasible) or notifying readers that a retracted study was included in the originally published systematic review.

correction

#### ARTICLE INFORMATION

**Accepted for Publication:** January 23, 2015.

**Published Online:** March 16, 2015.

doi:10.1001/jamainternmed.2015.0237.

**Correction:** This article was corrected on January 27, 2025. This meta-analysis was published before 1 of the included studies<sup>24</sup> was retracted. A reanalysis without that study does not affect the reported results.

**Author Affiliations:** Medical Research Institute, University of Dundee, Ninewells Hospital, Dundee, Scotland (Beveridge, Struthers, Khan, Witham);

Tromsø  
Clinical U  
Arctic U  
(Jorde);  
Aucklan  
of Medic  
Aberdee  
Endocrin  
of Medic  
Atlanta,  
Geriatric  
Medicin  
Universi  
Division

**JAMA Internal Medicine** May 2015 Volume 175, Number 5

# 11a. Paper mills selling articles for more than a decade

—MARA HVISTENDAHL

www.sciencemag.org SCIENCE VOL 342 29 NOVEMBER 2013



## China's Publication Bazaar

A Science investigation has uncovered a smorgasbord of questionable practices including paying for author's slots on papers written by other scientists and buying papers from online brokers

**"IT'S UNBELIEVABLE: YOU CAN PUBLISH SCI PAPERS WITHOUT DOING EXPERIMENTS."**

—Banner on Sciedit's website

Description of misconduct (February 2022) :

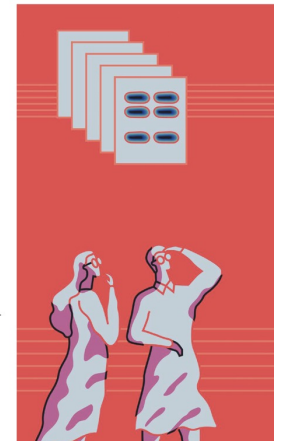
<https://pubpeer.com/publications/940C291607CF03969C6A936F8BA5B9#2>

Feature

516 | Nature | Vol 591 | 25 March 2021

## THE BATTLE AGAINST PAPER MILLS

Some journals have admitted to a problem with fake research papers. Now editors are trying to combat it. By Holly Else and Richard Van Noorden



### Industrialized cheating

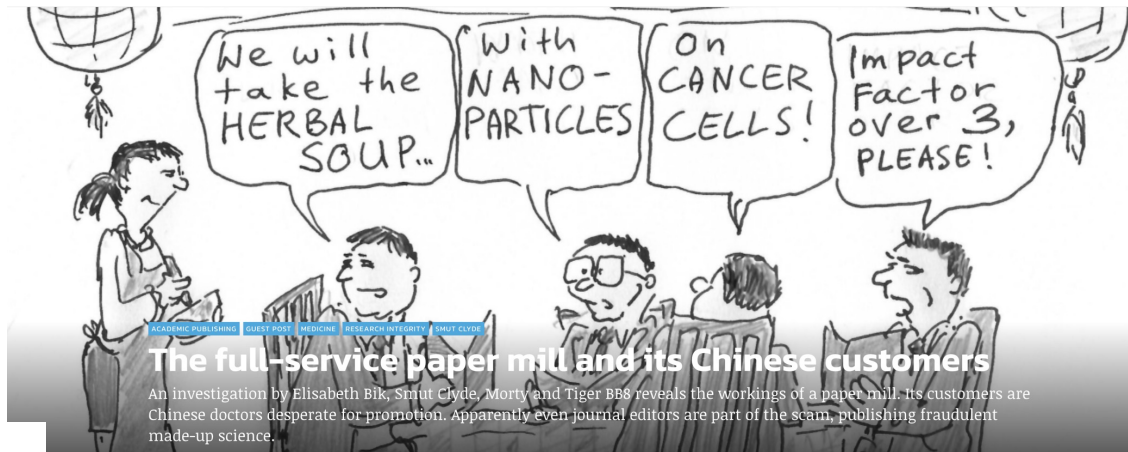
The problem of organized fraud in publishing is not new, and not confined to China, notes Catriona Fennell, who heads publishing services at the world's largest scientific publisher, Elsevier. "We've seen evidence of industrialized cheating from several other countries, including Iran and Russia," she told *Nature* last year. Others have also reported on Iranian and Russian paper-mill activities.

In a statement this year to *Nature*, Elsevier said that its journal editors detect and prevent the publication of thousands of probable paper-mill submissions each year, although some do get through.

China has long been known to have a problem with firms selling papers to researchers, says Xiaotian Chen, a librarian at Bradley University in Peoria, Illinois. As far back as 2010, a team led by Shen Yang, a management-studies researcher then at Wuhan University in China, warned of websites offering to ghostwrite papers on fictional research, or to bypass peer-review systems for payment. In 2013, *Science* reported on a market for authorships on research papers in China. In 2017, China's Ministry of Science and Technology (MOST) said it would crack down on misconduct after a scandal in which 107 papers were retracted at the journal *Tumor Biology*; their peer reviews had been fabricated and a MOST investigation concluded that some had been produced by third-party companies.

Physicians in China are a particular target market because they typically need to publish research articles to gain promotions, but are so busy at hospitals that they might not have time to do the science, says Chen. Last August, the Beijing municipal health authority published a policy stipulating that an attending physician wanting to be promoted to deputy chief physician must have at least two first-author papers published in professional journals; three first-author papers are required to become a chief physician. These titles affect

# 11b. Paper mills churning dodgy papers out



## For Better Science

BY LEONID SCHNEIDER, ON RESEARCH INTEGRITY, BIOMEDICAL ETHICS AND ACADEMIC PUBLISHING



BY LEONID SCHNEIDER  
JANUARY 24, 2020

In China, clinicians are expected to publish a certain number of research papers in international journals if they want to be promoted. The easiest way is to pay a paper mill, which seem to provide a full service: an English-speaking research paper containing Photoshop-generated fake research data, in a respectable peer-reviewed journal, with your name on it. Entire journals published by Wiley or Elsevier succumb to such scams, presumably because certain corrupt editorial board members are part of it. This was uncovered in an investigation by Elisabeth Bik, as well as the pseudonymous Smut Clyde, Morty and Tiger BB8, and narrated below by Smut Clyde.

The presently almost 500 papers were traced to one specific paper mill not because of direct image reuse, but because the data showed same patterns of falsifications: same blot backgrounds, same shapes of bands, and similarly falsified flow cytometry plots.

**Morty** @mortenoxe · Jan 20, 2020

Published by Wiley, indexed by the US National Library of Science, and read by scientists. Paid by public funds, all profit to the publisher and some laughter in China. #BetterJournalIndexing #PubPeer #NIH #Wileyinresearch

Upregulation of long noncoding RNA TUG1 contributes to the development of laryngocarcinoma by targeting miR-145-5p/ROCK1 axis.  
Zhuang S, Liu F, Wu P.  
J Cell Biochem. 2019 Aug;120(8):13392-13402. doi: 10.1002/jcb.28614.

Figure 1

Figure 3

Figure 5

WHY?

# 11c. Paper mills: authorship and citations for sale

<https://pubpeer.com/publications/D90634517147FC3259F8157ABC8054>

**PUBPEER**  
The online Journal club

DOI, PMID, arXiv ID, keyword, auth

Home / Publications

**Intelligent multimedia urban planning Construction based on spectral clustering algorithms of large data mining**

Multimedia Tools and Applications (2020) - 1 Comment  
doi: 10.1007/s11042-019-7572-x issn: 1380-7501 issn: 1573-7721

Xing Lanqin

#1 Hoya camphorifolia commented December 2021

Can the author assure readers that all the citations of papers by N. Arunkumar and his collaborators (several of them problematical, with their own Pubpeer threads) are really the most relevant references available? They seem to have wandered in from a different paper, with a more medical theme.

"Through the scientific analysis in environmental capacity of a smart city in the smart city planning, a limitation can be put on the population size and land use scale, water supply, energy transportation, etc. so as to achieve the reasonable scale of the smart city [1, 19, 20, 22]."

- [1]. Abdulhay E, Alafeef M, Alzghoul L, Momani MA, Rabah Al Abdi, **AKN**, Munoz R, de Albuquerque VHC (2018) Computer-aided autism diagnosis via second-order difference plot area applied to EEG empirical mode decomposition. *Neural Comput & Applic.* <https://doi.org/10.1007/s00521-018-3738-0>
- [19]. Peixoto SA, Filho PPR, **Arun Kumar N**, de Albuquerque VHC (2018) Automatic classification of pulmonary diseases using a structural co-occurrence matrix. *Neural Comput & Applic*:1-11. <https://doi.org/10.1007/s00521-018-3736-2>
- [20]. Pereira RF, da Silva Filho VER, Moura LB, **Kumar NA**, de Alexandria AR, de Albuquerque VHC (2018) Automatic quantification of spheroidal graphite nodules using computer vision techniques. *J Supercomput.* <https://doi.org/10.1007/s11227-018-2579-z>
- [22]. U. Rajendra Achary, Yuki Hagiwara, **Arunkumar**, Edward J. Ciaccio, Chaitanya K. Komuramrasi, *Comput Syst, Vol. 91, 2019, pg. 290*

#2 Guillaume Cabanac commented August 2022

Readers should reassess the reliability of this paper as its bibliography includes **several questioned references** that are likely to be unreliable. So far, the following have been spotted:

Questioned Reference Cited	Details
<a href="https://doi.org/10.1007/s00521-018-3801-x">10.1007/s00521-018-3801-x</a>	[2018] <i>Neural Computing and Applications</i> : Hybrid optimization with cryptography encryption for medical image security in Internet of Things. Mohamed Elhoseny • K. Shankar • S. K. Lakshmanprabu • Andino Maselena • N. Arunkumar
<a href="https://doi.org/10.1007/s11227-018-2587-z">10.1007/s11227-018-2587-z</a>	[2018] <i>The Journal of Supercomputing</i> : Decision support system for nasopharyngeal carcinoma discrimination from endoscopic images using artificial neural network. Mazin Abed Mohammed • Mohd Khanapi Abd Ghani • N. Arunkumar • Raed Ibraheem Hamed • Salama A. Mostafa • Mohamad Khir Abdullah • M. A. Burhanuddin
<a href="https://doi.org/10.1007/s00500-018-3618-7">10.1007/s00500-018-3618-7</a>	[2018] <i>Soft Computing</i> : K-Means clustering and neural network for object detecting and identifying abnormality of brain tumor. N. Arunkumar • Mazin Abed Mohammed • Mohd Khanapi Abd Ghani • Dheyaa Ahmed Ibrahim • Enas Abdulhay • Gustavo Ramirez-Gonzalez • Victor Hugo C. de Albuquerque
<a href="https://doi.org/10.1016/j.future.2018.10.009">10.1016/j.future.2018.10.009</a>	[2019] <i>Future Generation Computer Systems</i> : Optimal deep learning model for classification of lung cancer on CT images. S.K. Lakshmanprabu • Sachin Nandan Mohanty • K. Shankar • N. Arunkumar • Gustavo Ramirez

According to Dimensions, this article has been cited once.

Flagged by the *Problematic Paper Screener*, Feet of Clay Detector.

## Introducing two sites that claim to sell authorships on scientific papers

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Articles ready for acceptance

Description	field	Condition	Journal	Title
Category: Q1 Impact: 3.5	Industries-Computer and Mechanics	Review	Sustainable Energy Technologies and Assessments	Prioritization of renewable energy resources in five climate zones in Iran using AHP, TOPSIS and SAW methods
Category: JCR Impact: 0.7	Mathematical Physics	Submit	Journal of mathematics	Numerical simulation of the unusual phenomenon of electron diffusion
Category: JCR Impact: 2.9	Physics, chemistry, materials, mechanics, manufacturing	Review	Vacuum-Elsevier	Investigation of creep behavior of GTD-111 super
ISI, Scopus Second and third names	Earth sciences, remote sensing, mapping, geology, geography	Review	Bulletin of Geography, Physical Geography Series	Self-Organization Map of GRACE-FO
Category: JCR Impact: 1.4	Civil, soil and foundation, ... geology	Review	Nondestructive Testing and Evaluation	Estimation of brittleness and velocity of rock shear wave with different models
Category: Q2 Impact: 2.8	Mechanics-Chemistry-Computers	Review	International Journal of Numerical Methods for Heat & Fluid Flow   Emerald Insight	Mathematical modeling of the production of magnetic Fe <sub>3</sub> O <sub>4</sub> nanoparticles through counter-flow non-premixed combustion
Category: Q1 Impact: 4	Civil-Architecture	Review	Engineering with computers	Dynamic simulation of moderately thick annular system coupled with shape memory alloy and multi-phase nanocomposite face sheets
Category: Impact JCR: 3.7	Physics, chemistry, materials, mechanics, manufacturing	Review	Surface and Coatings Technology	Evolution of solidification and microstructural in laser-clad Ti60

Form fields: Name, Phone, String, Submit

<https://retractionwatch.com/?p=123031>

Feet of Clay

# 12a. Some publishers' commercial practices

## Is MDPI a predatory publisher?

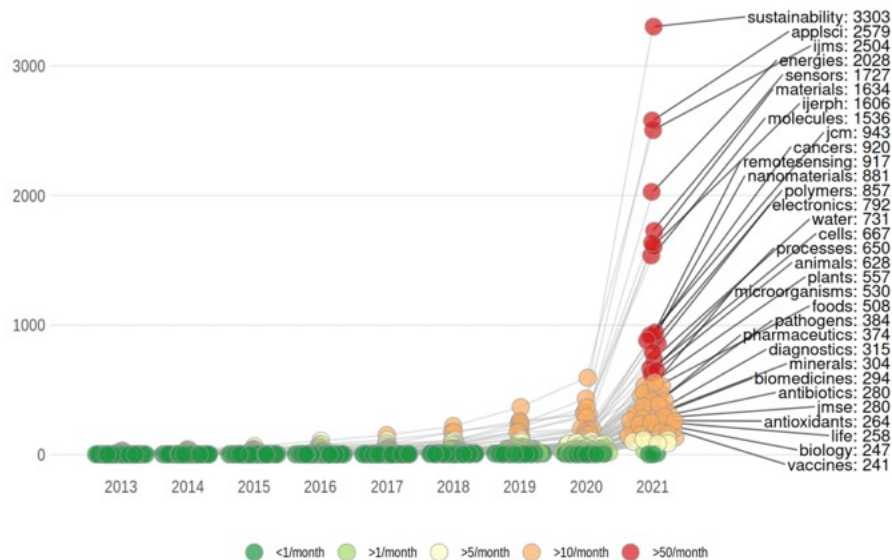
Paolo Crosetto | Uncategorized | April 12, 2021 | 20 Minutes

DR INRAE Grenoble | <https://paolocrosetto.wordpress.com/2021/04/12/is-mdpi-a-predatory-publisher/>

### Special Issues as an economic model

#### Number of Special Issues at MDPI

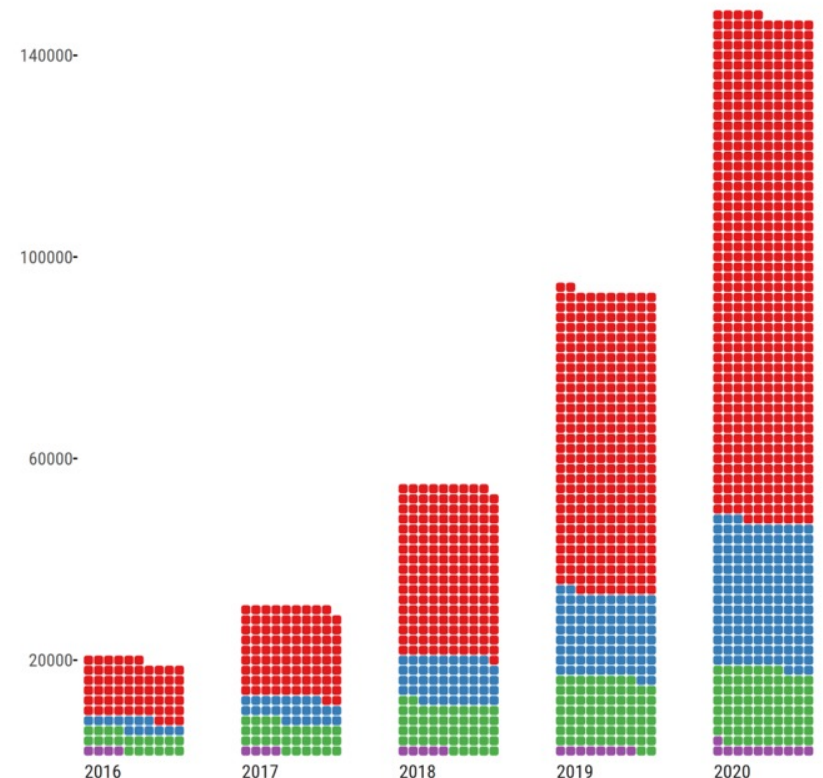
75 journals with an Impact Factor



code @paolocrosetto -- data scraped from MDPI website

#### Articles in Normal, Special Issues, Sections and Collections at MDPI

74 journals with an Impact Factor. One square = 200 articles



Data:MDPI -- code: @paolocrosetto

## 12b. Some publishers' commercial practices



L'organisme français de recherche agronomique et de coopération internationale pour le développement durable des régions tropicales et méditerranéennes.

**Mdpi, produire en masse les articles avec un délai soumis-accepté de quatre semaines (Résumé exécutif)**

Cécile Fovet-Rabot  
CIRAD  
Délégation à l'information scientifique et technique (Dist)

Montpellier, 14 juin 2022

<https://doi.org/10.18167/agritrop/00592>

l'Institut national de recherche pour l'agriculture, l'alimentation et l'environnement **INRAE** DipSO



**Bien choisir sa revue de publication, c'est éviter les éditeurs douteux !**

**Le cas MDPI**  
**Multidisciplinary Digital Publishing Institute**

Cet éditeur de revues en Open Access est aujourd'hui bien établi après avoir créé un large bouquet de revues nouvelles à partir de 2010. Le nombre de publications de chercheurs INRAE dans certaines de ses revues est en constante augmentation. C'est pourquoi il fait l'objet d'une attention particulière.

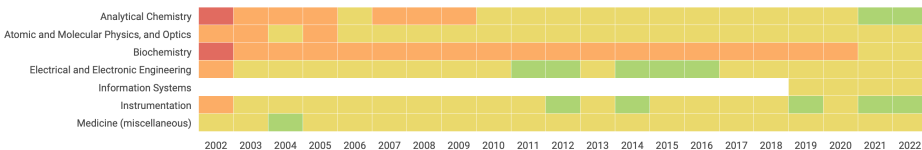
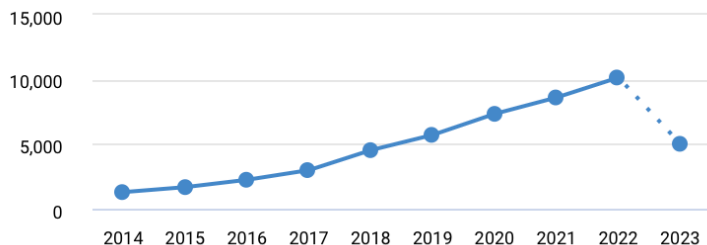
La crédibilité discutable<sup>[3]</sup> accordée à MDPI provient essentiellement des 18 revues de son catalogue dont le facteur d'impact est supérieur à 4. L'éditeur reste connu pour utiliser des méthodes douteuses :

- Sollicitations abusives des chercheurs repérés grâce à des outils d'intelligence artificielle selon leur domaine de compétences ;
- Multiplication des numéros spéciaux chaque année (cf. graphique) pour attirer des auteurs ;
- Création de revues avec des titres similaires à d'autres revues de renom (ex : *Animal* et *Animals*, *Cell* et *Cells*)
- Délais de publication brefs et piètre qualité de la communication vers les auteurs.

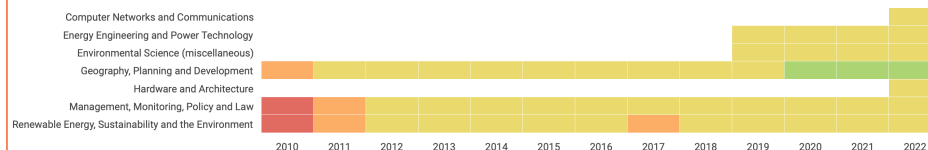
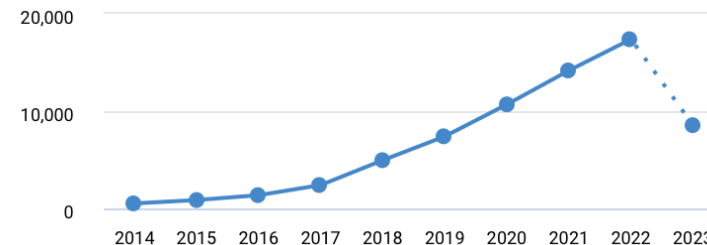
<https://doi.org/10.17180/cdky-p004>

# 12c. Some publishers' aggressive commercial practices

 Sensors (2400 CHF)

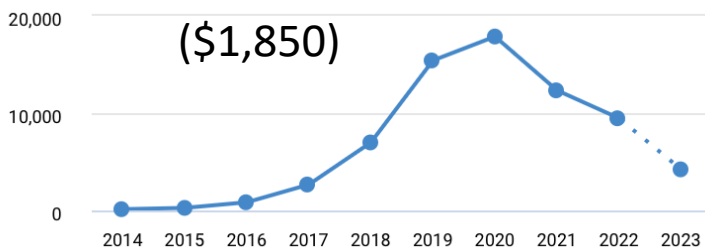


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<https://www.scimagojr.com>

# 13a. Data fabrication in a CNRS lab from France

[https://www.lemonde.fr/sciences/article/2022/12/05/une-affaire-d-inconduite-scientifique-agite-un-laboratoire-de-recherche-en-chimie\\_6153035\\_1650684.html](https://www.lemonde.fr/sciences/article/2022/12/05/une-affaire-d-inconduite-scientifique-agite-un-laboratoire-de-recherche-en-chimie_6153035_1650684.html)

## Le Monde

SCIENCES

### Une affaire d'inconduite scientifique agite un laboratoire de recherche en chimie

Publications trafiquées ou simples erreurs ? Une directrice de recherche d'une unité mixte CNRS-Sorbonne Paris Nord attend le verdict de la procédure disciplinaire. « Le Monde » a enquêté sur cette affaire, qui met aussi à l'épreuve les instances scientifiques.

Par David Larousserie

Publié le 05 décembre 2022 à 15h33 - Lecture 6 min.

Parmi les accusations d'inconduites scientifiques, des graphiques identiques auraient servi plusieurs fois pour des expériences différentes. Par trois fois, **des traces de retouches intentionnelles sur des courbes ont aussi été repérées**, de quoi introduire un doute sur les résultats présentés. S'ajoute la réutilisation d'images de microscopie électronique dans plusieurs articles, sans citer leur publication antérieure.

Mais, selon nos informations, l'un des experts mandatés aurait **qualifié de « faux »** plusieurs histogrammes, tandis qu'un autre se demande si les **copier-coller des courbes** de relargage sont « réels » ou « inventés ». De quoi nuire à la crédibilité du travail. Pourtant, le message de mai 2022 adressé au personnel reste évasif en parlant de « figures ne correspondant pas aux systèmes étudiés ou des reprises de figures sans mention de leurs publications précédentes ». La manipulation de données présumée n'est pas évoquée.



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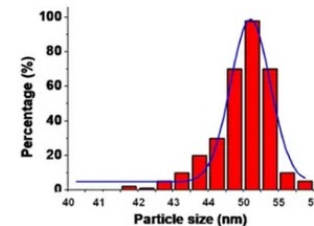
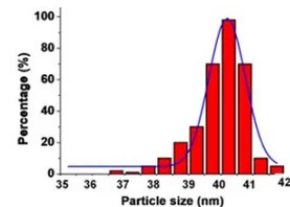
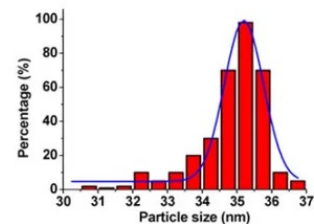
36 results

#1 *Xylocopa viridis* commented August 2022

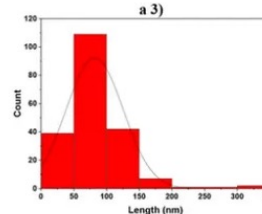
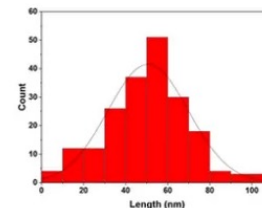
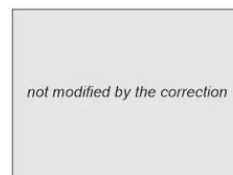
This is a correction to a 2020 article: \*The original version of this article unfortunately contained a mistake: The values of the distribution histogram of the nanoparticle size is 40 nm (Figure 1a2) and 50 nm (Figure 1a3). The correct values are now 50 nm (Figure 1a2) and 75 nm (Figure 1a3).\*

The figure before and after correction is shown below. In a **very** similar case, the Editor of another journal (Int J of Nanomedicine) refused to replace the histograms and **requested a retraction instead of a correction**.

Before correction



After correction



<https://pubpeer.com/publications/C9081BBA3DCD96D61FC7E1C22274FA>

# 13b. Suspected fabrication in another CNRS lab

[https://www.lemonde.fr/sciences/article/2023/12/19/soupcons-d-inconduite-scientifique-pour-un-couple-de-chercheurs\\_6206696\\_1650684.html](https://www.lemonde.fr/sciences/article/2023/12/19/soupcons-d-inconduite-scientifique-pour-un-couple-de-chercheurs_6206696_1650684.html)

## Le Monde

SCIENCES

### Soupçons d'inconduite scientifique pour un couple de chercheurs

Le CNRS et l'université de Lille ont commencé fin novembre une instruction concernant plus de soixante articles d'un couple de chercheurs de l'Institut d'électronique, de microélectronique et de nanotechnologie à Lille.

Par David Larousserie

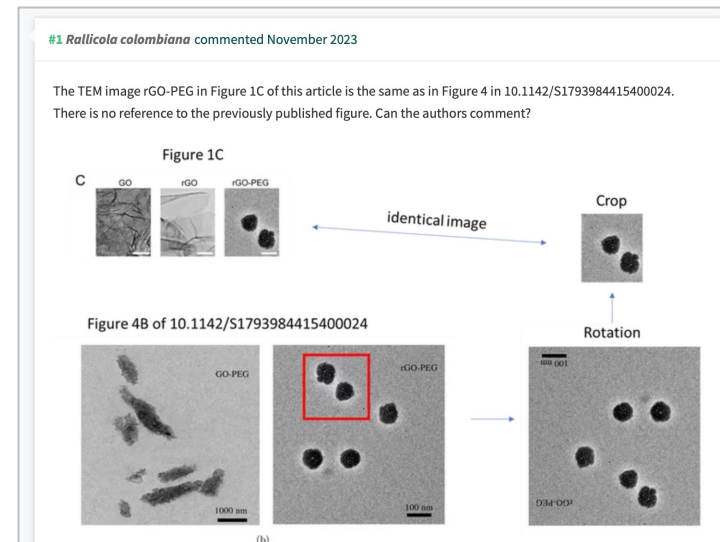
Publié le 19 décembre 2023 à 17h30 · Lecture 3 min.

l'université de Lille. C'est la plus connue du couple, médaille d'argent du CNRS en 2018, chevalier de la Légion d'honneur en juillet, détentrice d'une dizaine de brevets. Ces dix dernières années, elle a publié plus de 20 articles par an (pour un total de 488 articles depuis le début de sa carrière, avec une pointe à 42 en 2016.



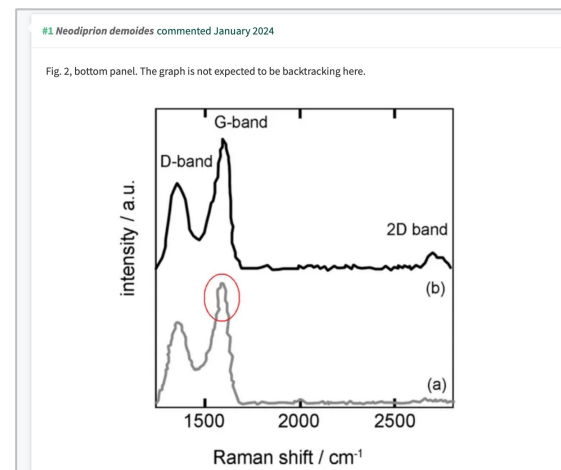
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Cells, 2020

<https://pubpeer.com/publications/7BD84681B312417E1CA665A83E9BB7>



Chemistry, 2013

<https://pubpeer.com/publications/32714981D1874BFD78FD40E8E97583>

# Consequences: unacceptable pollution!

nature

NEWS | 27 May 2021 | Clarification [28 May 2021](#)

## Hundreds of gibberish papers still lurk in the scientific literature

The nonsensical computer-generated articles, spotted years after the problem was first seen, could lead to a wave of retractions.

[Richard Van Noorden](#)

NEWS | 05 August 2021 | Correction [10 August 2021](#)

## 'Tortured phrases' give away fabricated research papers

Analysis reveals that strange turns of phrase may indicate foul play in science.

[Holly Else](#)

NEWS | 08 November 2021

## Scammers impersonate guest editors to get sham papers published

Hundreds of junk-science papers have been retracted from reputable journals after fraudsters used 'special issues' to manipulate the publication process. And the problem is growing.

[Holly Else](#)

"It is very worrying," says Guillaume Cabanac, a computer scientist at the University of Toulouse in France, who has worked to uncover nonsense science papers in special issues. He adds that it is shocking to see such papers in journals from 'flagship' publishers and that "it is not only predatory journals that publish bullshit".

# Consequences: retractions++

July 19, 2021 Adam Marcus



ELSEVIER

**'Tortured phrases', lost in translation: Sleuths find even more problems at journal that just flagged 400 papers**

August 26, 2021 Ivan Oransky

**Guest editor says journal will retract dozens of inappropriate papers after his email was hacked**

September 22, 2021 Adam Marcus

**"[T]hese shit comments": Author of a nonsense paper responds on PubPeer**

September 28, 2021 Ivan Oransky



**Springer Nature slaps more than 400 papers with expressions of concern all at once**

November 4, 2021 Adam Marcus

**Springer Nature geosciences journal retracts 44 articles filled with gibberish**

Retraction   
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February 23, 2022 Ivan Oransky

**Publisher retracts 350 papers at once**



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# Consequences: retractions++ of fraudulent articles cited++

Nature | Vol 624 | 21/28 December 2023



Retractions are skyrocketing as publishers work to remove sham articles from the literature.

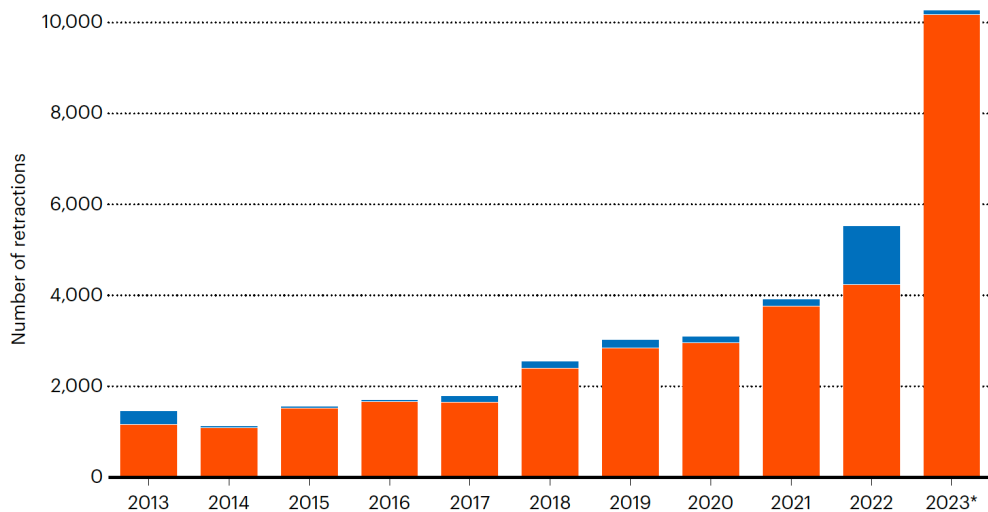
## MORE THAN 10,000 RESEARCH PAPERS WERE RETRACTED IN 2023 — A NEW RECORD

The number of articles being retracted rose sharply this year. Integrity experts say that this is only the tip of the iceberg.

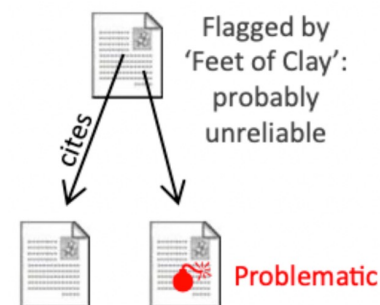
### A BUMPER YEAR FOR RETRACTIONS

Retraction notices in 2023 have passed 10,000, largely because of more than 8,000 retractions by Hindawi.

Journal articles Conference papers



\*As of 8 December 2023



Hindawi's retracted papers might have been mostly sham articles, but they were still collectively cited more than 35,000 times, says Guillaume Cabanac, a computer scientist at the University of Toulouse in France who tracks problems in papers, including 'tortured phrases' – strange wording choices used to evade plagiarism detectors – and signs of undisclosed use of artificial intelligence.

# “Sunlight as disinfectant”

The Nature’s 10 list explores **key developments in science** this year and some of the people who played important parts in these milestones. Along with their colleagues, these individuals helped to make **amazing discoveries** and brought attention to **crucial issues**. Nature’s 10 is not an award or a ranking. The selection is compiled by Nature’s editors to highlight key events in science through the compelling stories of those involved.

Feature Nature’s 10

## Guillaume Cabanac Deception sleuth

+dozens of sleuths on PubPeer

This computer scientist helped to uncover a new kind of fabricated paper.

By Diana Kwon

**U**nderground creepy crawly state. Bosom malignancy. Sun oriented force. These might sound like expressions from a work of fiction, but they are actually strange translations, pulled from the scholarly literature, of scientific terms – ant colony, breast cancer and solar energy, respectively. Guillaume Cabanac, a computer scientist at the University of Toulouse, France, spots such bizarre phrases in academic papers every day.



institut  
universitaire  
de France

Research Chair 2022–2027

“Decontaminate the scientific literature”

Feature

# NATURE’S 10

Ten people who helped shape science in 2021.



ILLUSTRATION BY ELENA GALOROSA BASSO

Winnie Byanyima / Friederike Otto / Zhang Rongqiao /  
Timnit Gebru / Tulio de Oliveira / John Jumper /  
Victoria Tauli-Corpuz / Guillaume Cabanac /  
Meaghan Kall / Janet Woodcock

The Nature’s 10 list explores key developments in science this year and some of the people who played important parts in these milestones. Along with their colleagues, these individuals helped to make amazing discoveries and brought attention to crucial issues. Nature’s 10 is not an award or a ranking. The selection is compiled by Nature’s editors to highlight key events in science through the compelling stories of those involved.

Nature | Vol 600 | 23/30 December 2021 | 591

# Sleuths: we do post-publication peer review pro bono

nature

NEWS | 27 May 2021

## Scientific image sleuth faces legal action for criticizing research papers

Researchers say the complaint filed against Elisabeth Bik could have a 'chilling effect' on scholarly criticism.

NEWS | 08 September 2023

## Scientific sleuths spot dishonest ChatGPT use in papers

Manuscripts that don't disclose AI assistance are slipping past peer reviewers.

NEWS Q&A | 04 August 2022

## What makes an undercover science sleuth tick? Fake-paper detective speaks out

David Bimler, also known as Smut Clyde, scours the scientific literature for bogus articles.

NATURE BRIEFING | 25 January 2024

## Daily briefing: Meet the data sleuth who spurred the Dana-Farber retractions

'There's a pretty simple way to prevent all of this,' he says. Plus, troubled times at Fermilab and when whales walked the Earth.

# Prevention: PubPeer and its browser + Zotero extensions


<https://pubpeer.com>

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The PubPeer database contains all articles. Search results return articles with comments.

10.48550/arxiv.2206.07578 

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Jongwan Kim, DongJin Lee, Byunggook Na, Seongsik Park, Jeonghee Jo, Sungroh Yoon

arXiv (2022) 4 comments

## Browser extensions

Most journals are not interested in showing **PubPeer** comments directly on their websites so we have created "browser extensions" to make sure you never miss a **PubPeer** comment. The extension is a few lines of code that check if there are **PubPeer** comments on articles you read and alerts you with a banner in your browser if it finds some. They exist for all major browsers and you can install them here:



## Reference manager extensions

Reference managers are great tools for organizing the literature. We are currently developing extensions that indicate which references in a library contain **PubPeer** comments.



# Prevention: PubPeer and its browser + Zotero extensions

There are 7 articles on this page with PubPeer comments

Wearable IoT Smart-Log Patch: An Edge Computing-Based Bayesian Deep Learning Network System for Multi Access Physical Monitoring System  
A new architecture of Internet of Things and big data ecosystem for secured smart healthcare monitoring and alerting system  
Neural Network Based Brain Tumor Detection Using Wireless Infrared Imaging Sensor  
Developing brain abnormality recognize system using multi-objective pattern producing neural network  
Prostate cancer classification from prostate biomedical data using ant rough set algorithm with radial trained extreme learning neural network  
Cloud based framework for diagnosis of diabetes mellitus using K-means clustering

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10.3390/s19133030

1 comment on PubPeer (by: Guillaume Cabanac)

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## Wearable IoT Smart-Log Patch: An Edge Computing-Based Bayesian Deep Learning Network System for Multi Access Physical Monitoring System

by Gunasekaran Manogaran<sup>1,\*</sup>, P. Mohamed Shakeel<sup>2</sup>, H. Fouad<sup>3</sup>, Yunyoung Nam<sup>4,\*</sup>, S. Baskar<sup>5</sup>, Naveen Chilamkurti<sup>6</sup> and Revathi Sundarasekar<sup>7</sup>

- 1 University of California Davis, Davis, CA 95616, USA
- 2 Faculty of Information and Communication Technology, Universiti Teknikal Malaysia Melaka, Durian Tunggal 76100, Melaka, Malaysia
- 3 Biomedical Engineering Department, Faculty of Engineering, Helwan University, Helwan 11792, Egypt
- 4 Department of Computer Science and Engineering, Soonchunhyang University, Asan 31538, Korea
- 5 Department of Electronics and Communication Engineering, Karpagam Academy of Higher Education, Coimbatore, Tamil Nadu 641021, India
- 6 Department of Computer Science and IT, La Trobe University, Melbourne 3086, Australia
- 7 Anna University, Tamil Nadu 600025, India

\* Authors to whom correspondence should be addressed.

Sensors 2019, 19(13), 3030; <https://doi.org/10.3390/s19133030>

1 comment on PubPeer (by: Guillaume Cabanac)

Received: 28 May 2019 / Revised: 26 June 2019 / Accepted: 1 July 2019 / Published: 9 July 2019



This article cites references that were questioned or **retracted** even.

One needs to gain awareness to better appreciate the contribution.

# Prevention: Reduce fraud incentives



Web of Science



Highly Cited Researcher

our 2023 list, recognizing 6,849 individuals from more than 1,300 institutions across 67 countries and regions.

Research

universit  de BORDEAUX

News

## Three scientists from the Bordeaux campus among the most cited researchers in the world

Updated on: 18/11/2022

<https://www.u-bordeaux.fr/en/news/three-scientists-bordeaux-campus-among-most-cited-researchers-world>

### 3 Evaluation - Continuous

- Extreme levels of hyper-authorship
- Papers with anomalous levels of self-citation - normalized by field
- Papers which demonstrate unusual collaborative group co-citation activity
- Papers with anomalous levels of citations from co-authors
- Papers with signs of publishing anomalies incl. , plagiarism, tortured phrases, spurious references and more

<https://clarivate.com/blog/highly-cited-researchers-2023-the-evolution-of-our-evaluation-and-selection-policy-to-support-a-robust-scholarly-landscape/>

By implementing an increasing number of qualitative criteria and markers this year, the number of preliminary candidates excluded from our final list increased from 500 in 2022 to more than 1,000 for 2023.



New in 2023

# Prevention: Strengthen gatekeeping

Enhance the filters ahead of publication

The publishing industry uses **tortured phrases** as **negative signals**

## STM Integrity Hub

A New, Unified Approach to Safeguard Research Integrity

Safeguarding research integrity can only be done through collaboration with all stakeholders in the scholarly ecosystem. STM Solutions worked with several **research integrity specialists** and organizations for this release, including PubPeer, Clear Skies, **Elisabeth Bik** and Guillaume Cabanac (pro bono). The STM Integrity Hub hopes to deepen and extend its collaboration with research integrity specialists and organizations going forward.

[ NEWS ] OCTOBER 23, 2023

## Morressier teams up with academic fraud sleuths to bring tortured-phrase detection to publishing workflows

These three researchers founded the *Problematic Paper Screener*, a platform that flags questionable articles in the scientific literature. It leverages a daily maintained public database of 'fingerprint' phrases that can be used to identify potentially problematic submissions. Morressier now uses this data to check submissions via its workflows, flagging potentially problematic content early for editors.

<https://www.morressier.com/post/morressier-teams-up-with-academic-fraud-sleuths-to-bring-tortured-phrase-detection-to-publishing-workflows>

## STM Solutions releases MVP of new paper mill detection tool

News Announcement, Research Integrity  
April 13, 2023

<https://www.stm-assoc.org/papermillchecker/>



Association for  
Computing Machinery



that had already been published in a paginated volume. In parallel with the journal's own investigation, papers from these six VSIs were flagged by Guillaume Cabanac, Cyril Labbé and Alexander Magazinov [1] as part of their work in **identifying problematic papers and making the community aware of them**. This work by Dr Cabanac and colleagues has informed the journal's investigations. To date, the investigation has resulted in the **decision to retract** a first batch of 101 papers from the journal. The retraction process is expected to be completed in the coming weeks. The rest of the papers in question are under investigation by the EiC and publisher's ethical team. The configuration of the online



April 2023, <https://doi.org/10.1016/j.micpro.2022.104754>

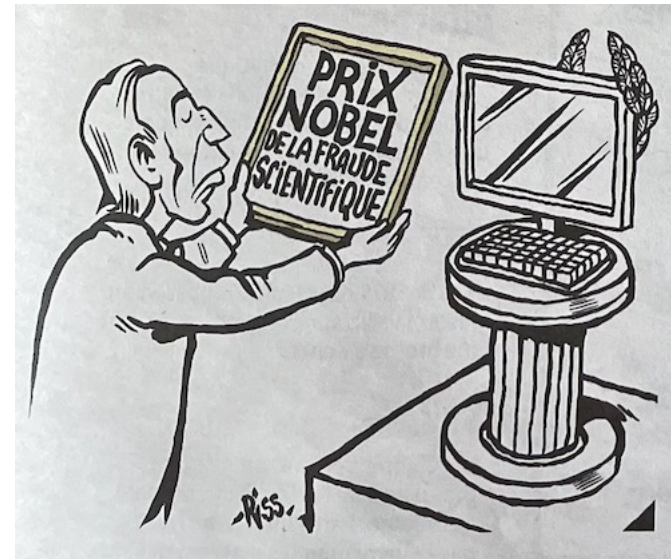
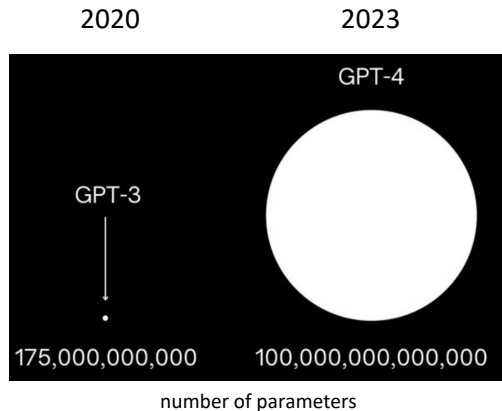
**CLEAR SKIES**

THE PAPERMILL ALARM



River Valley

# The 2023 big wave: ChatGPT-powered misconduct



8 FÉVRIER 2023 / N°1594 CHARLIE HEBDO 15

EDITORIAL | 24 January 2023

nature

## Tools such as ChatGPT threaten transparent science; here are our ground rules for their use

As researchers dive into the brave new world of advanced AI chatbots, publishers need to acknowledge their legitimate uses and lay down clear guidelines to avoid abuse.

# We must decontaminate the scientific literature



- Actors:** Scammers acting as wannabe scientists  
Gatekeepers failing to enforce peer review  
Publishers not monitoring their products  
Policy makers promoting Publish or Perish
- Motive:** Promotion, recognition, symbolic capital
- Modus operandi:** Plagiarism, journal hijacking, buying of citations



- Consequences:** Pollution of the literature  
Erosion of the trust society places in science
- Detectives:** Professional and scientists and hobbyists  
Volunteers contributing *pro bono*
- Aim:** **Curative** → decontaminate the literature  
**Preventive** → anticipate new manipulations
- Means:** Decentralised re-assessment supported by the *Problematic Paper Screener*  
AI to detect errors, paraphrasing,  
data fabrication

[https://fr.wikipedia.org/wiki/Dépollution](https://fr.wikipedia.org/wiki/D%C3%A9pollution)

Volunteers decontaminating a beach after the *Prestige* spillover of 2002.

# Misconduct and the correction of science

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## Articles

- Barbour, B., & Stell, B. M. ([2020](#)). *PubPeer: Scientific assessment without metrics*. In M. Biagioli & A. Lippman (Eds.), *Gaming the metrics: Misconduct and manipulation in academic research* (pp. 149–155). Cambridge, MA, USA: MIT Press.
- Cabanac, G. ([2022](#)). Decontamination of the scientific literature. *arXiv:2210.15912*
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# Appendix



# Einstein Foundation Award for Promoting Quality in Research



## EINSTEIN FOUNDATION AWARD 2024



*Einstein Foundation Individual Award*

**Elisabeth Bik**



**PUBPEER**

The online journal club

*Einstein Foundation Institutional Award*

**PubPeer**



*Einstein Foundation Early Career Award*

**PixelQuality**



*Einstein Foundation Early Career Award*

**Early Career Award: 2024 Finalists**



**Einstein Foundation  
Award for Promoting  
Quality in Research**

INTERNATIONAL RESEARCH AWARD – THE 2024 AWARDEES

**Press Kit 2024**

PRESS KIT  
EINSTEIN FOUNDATION AWARD 2024



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### Funded by



### Partners



# Screening the literature for tortured phrases

Fingerprint-based method:



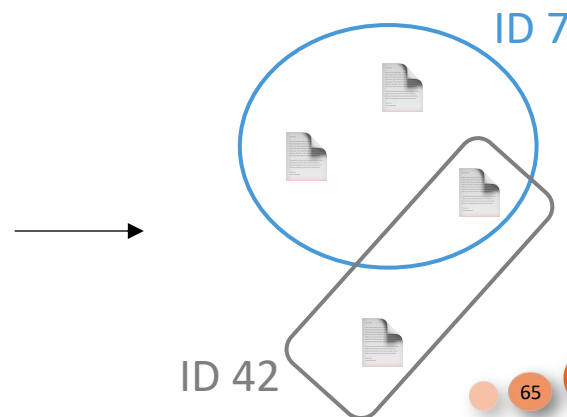
Fingerprints used by the Problematic Paper Screener

Fingerprint	Tortured Phrase	Expected Phrase
1	counterfeit consciousness	artificial intelligence
2	man-made brainpower	artificial intelligence
3	hereditary calculation	genetic algorithm
...		
46	<b>innocent</b> Bayes	naive Bayes
47	mean square <b>mistake/blunder</b>	mean square error
48	calculated relapse	logistic regression
49	<b>flag to commotion</b>	signal to noise
50	<b>p-esteem</b>	p-value
...		
4088	bosom malignancy	breast cancer
4089	kidney <b>disappointment</b>	kidney failure
4090	Protein/mRNA <b>articulation</b>	Protein/mRNA expression



```
search publications in full_data for "{fingerprint-query}"
where year >= 2005
and type in [ "article", "chapter", "preprint", "proceeding" ]
return publications [id + year + type + doi + title + journal + proceedings_title+
publisher + book_title + times_cited + altmetric]

limit 1000
```



## L'opportunité d'une discussion scientifique plus ouverte ?

Créé en 2017 comme département du **Hcéres, l'Office Français de l'Intégrité Scientifique (OFIS)** assure une mission nationale de promotion et de coordination des politiques en faveur de l'intégrité scientifique. Ses actions s'organisent selon trois axes : observatoire, ressources, réflexion et prospective. L'OFIS est dirigé par Stéphanie Ruphy. Le **Conseil Français de l'Intégrité Scientifique (CoFIS)**, présidé par Olivier Le Gall, oriente et supervise ses travaux.

Fin avril dernier, les Professeurs Didier Raoult et Eric Chabrière annonçaient avoir porté plainte pour harcèlement, tentative de chantage et d'extorsion contre Elisabeth Bik, microbiologiste aujourd'hui spécialisée dans le commentaire critique d'articles scientifiques déjà publiés, et pour complicité contre Boris Barbour, neurobiologiste au CNRS et administrateur du site **PubPeer** qui accueille de tels commentaires, souvent anonymes. Les commentaires peuvent renvoyer à des **questions d'éthique** (non-respect des réglementations en vigueur concernant la protection des personnes), de **déontologie** (absence de déclaration de conflits d'intérêt) ou encore **d'intégrité scientifique** (manipulation d'images). Il n'entre pas dans les prérogatives de l'OFIS de se prononcer sur des cas individuels, puisque le traitement d'allégations particulières de manquements à l'intégrité scientifique relève au premier chef de la responsabilité des opérateurs de recherche concernés. En revanche, **cette affaire rend visible de nouveaux enjeux majeurs en matière de bonnes pratiques scientifiques.**

[...]

Sur un plan plus **institutionnel se pose la question de la pleine intégration à l'écosystème de la recherche des fonctions de vigilance et de correction post-publication assurées aujourd'hui par ces blogs et plateformes spécialisés.** Dès lors que le bénéfice de ces fonctions est établi pour la qualité et la fiabilité des productions scientifiques, **pourquoi ne pas envisager leur reconnaissance voire leur prise en charge par les institutions scientifiques ?** Cela permettrait au monde académique de s'approprier pleinement ces nouvelles modalités de discussion critique et d'en définir collectivement les bonnes pratiques comme il l'a fait pour les autres processus déjà existants d'auto-correction. Il pourrait par exemple considérer les **activités de commentaires post-publication comme relevant des activités ordinaires du chercheur,** au même titre que les activités traditionnelles d'évaluation par les pairs. Ou encore, soutenir les interventions pertinentes d'acteurs qui ne sont pas ou plus des chercheurs en exercice, reconnaissant ainsi leur légitimité et leur utilité.