

Scientific Watch June 2023 (n°5)

The scientific watch led this month to the selection of 25 papers. Eight of them deal with scientific publishing: predatory journals [1-2], peer review [3-4], retractions [5-7] or the role of China [8]. Seven deal with misconduct and questionable research practices: conflicts of interest [9-11], incentives [12-13] and other issues [14-15]. Eight deal with new research practices, such as the use of ChatGPT [16-20], open and participatory science [21] or science-policy interfaces [22-23]. Finally, two are useful for implementing codes of conduct [24-25].



ISSUE OF THE MONTH

Who are the researchers publishing in predatory journals?

Chérifa Boukacem-Zeghmouri and her colleagues conducted a survey of authors of articles published in OMICS journals - a scientific publisher whose predatory nature is widely acknowledged, notably legally [1]. The analysis of the responses from the 86 respondents enabled identification of several of these scientists' motivations: the perceived scope of OMICS journals, followed by their perceived impact factor, indexing in international databases and open access model. However, the perceived impact factor and perceived indexation seem to be misconceptions. In light of the survey results, the team also refined the profiles, initially identified in the literature, of people likely to publish in predatory journals, i.e.:

1. "Fictitious and unwilling authors" (i.e. use of the names of internationally recognised researchers);
2. "Unheard victims" with few English skills and little knowledge of scientific publishing;
3. "Exploited victims" who, under pressure to publish or perish in an environment with limited resources, still want to advance their careers; and
4. The "Cynical and critical", who publish in OMICS knowingly because they perceive legitimate journals as inaccessible and make these easy publications "a survival strategy in a very competitive and unequal world."


While some described their publishing experience as "traumatic", 71% of those questioned were willing to repeat their experience with the predatory publisher.

[1] C. Boukacem-Zeghmouri, L. Pergola, and H. Castaneda, « Profiles, motives and experiences of authors publishing in predatory journals: OMICS as a case study ». June 2023. Preprint available on: <https://hal.science/hal-04130294> 




SCIENTIFIC PUBLISHING

To continue on the topic of predatory journals:



- [2] B. S. Lancho Barrantes, S. Dalton, and D. Andre, « Bibliometrics Methods in Detecting Citations to Questionable Journals », *The Journal of Academic Librarianship*, vol. 49, n° 4, Art. 102749, July 2023, doi: [10.1016/j.acalib.2023.102749](https://doi.org/10.1016/j.acalib.2023.102749) 

In support of the professionalisation of peer-review:

- [3] C. Candal-Pedreira, J. Rey-Brandariz, L. Varela-Lema, M. Pérez-Ríos, and A. Ruano-Ravina, « Challenges in peer review: how to guarantee the quality and transparency of the editorial process in scientific journals », *Anales de Pediatría (English Edition)*, July 2023, doi: [10.1016/j.anpede.2023.05.006](https://doi.org/10.1016/j.anpede.2023.05.006) 
- [4] E. B. Kern and O. Friedman, « Chapter 10 - Medical journals: judging the quality of the editors, the peer reviewers, plus the issue of plagiarism », in *Empty Nose Syndrome*, E. B. Kern and O. Friedman, Ed., Elsevier, 2024, p. 175-180. doi: [10.1016/B978-0-443-10715-3.00010-X](https://doi.org/10.1016/B978-0-443-10715-3.00010-X).

Issues related to the retraction of scientific papers:


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- [5] C. Boudry, K. Howard, and F. Mouriaux, « Poor visibility of retracted articles: a problem that should no longer be ignored », *BMJ*, vol. 381, e072929, June 2023, doi: [10.1136/bmj-2022-072929](https://doi.org/10.1136/bmj-2022-072929)
- [6] T. Dehdarirad and M. Schirone, « Use of positive terms and certainty language in retracted and non-retracted articles: The case of biochemistry », *Journal of Information Science*, in press, available online: May 2023, doi: [10.1177/01655515231176650](https://doi.org/10.1177/01655515231176650). 
- [7] R. M. Kwee and T. C. Kwee, « Retracted Publications in Medical Imaging Literature: an Analysis Using the Retraction Watch Database », *Academic Radiology*, vol. 30, n° 6, p. 1148-1152, June 2023, doi: [10.1016/j.acra.2022.06.025](https://doi.org/10.1016/j.acra.2022.06.025). 





On the impact of Chinese research:

This researcher from the University of East Anglia in England explores the rise of Chinese research and its influence on global scientific publishing. According to the author, although China now plays a leading role in the production of scientific papers, a number of challenges remain - not least with regard to their scientific integrity. For instance, in 2017, "China published 8% of the world's scientific articles but collected 24% of all retractions."¹ The government's investment in research has played a large part in the growth of China's place in the global research ecosystem. Otherwise, in the author's view, the associated pressure to publish (generous bonuses) and lack of familiarity with Anglophone scientific writing (among other things) also make Chinese researchers vulnerable to the sale of authorship, papermills and predatory journals.

- [8] K. Hyland, « Enter the dragon: China and global academic publishing », *Learned Publishing*, vol. 36, n° 3, p. 394-403, May 2023 doi: [10.1002/leap.1545](https://doi.org/10.1002/leap.1545). 

MISCONDUCT AND QUESTIONABLE RESEARCH PRACTICES

Papers on the management of conflicts of interest:

- [9] J. F. Alexandra, D. Roux, H. Maisonneuve, B. Chousterman, P. Ruzsniowski, and D. Dreyfuss, « Toward improvement of knowledge of financial conflicts of interest in a large medical school in France », *PLOS ONE*, vol. 18, n° 5, e0285894, May 2023, doi: [10.1371/journal.pone.0285894](https://doi.org/10.1371/journal.pone.0285894). 
- [10] D. R. Isbell and J. Kim, « Developer involvement and COI disclosure in high-stakes English proficiency test validation research: A systematic review », *Research Methods in Applied Linguistics*, vol. 2, n° 3, Art. 100060, Dec. 2023, doi: [10.1016/j.rmal.2023.100060](https://doi.org/10.1016/j.rmal.2023.100060). 
- [11] R. A. Harrison, N. K. Majd, M. O. Johnson, D. L. Urbauer, V. Puduvalli, and M. Khasraw, « Characterization of industry relationships in oncology », *Cancer, in press*, available online : May 2023, doi: [10.1002/cncr.34852](https://doi.org/10.1002/cncr.34852).

On potential perverse incentives:

- [12] O. Cleaver, V. Prince, and J. B. Wallingford, « We have seen the gatekeepers, and they are us », *Developmental Biology*, June 2023, doi: [10.1016/j.ydbio.2023.06.016](https://doi.org/10.1016/j.ydbio.2023.06.016).

¹ K. Hyland referring to Tang, L. (2019). Five ways China must cultivate research integrity. *Nature*, 575,589–591. <https://doi.org/10.1038/d41586-019-03613-1>

[13] D. E. Irawan et al., « Comments on "Ranking researchers: Evidence from Indonesia" by Fry et al. (2023) », *Research Policy*, vol. 52, n° 7, Art. 104817, Sept. 2023, doi: [10.1016/j.respol.2023.104817](https://doi.org/10.1016/j.respol.2023.104817).


Other papers on misconduct or questionable research practices:


[14] W. D. Davis, L. Schumann, D. D. Evans, E. Ramirez, and J. Wilbeck, « Exposing research misconduct and data misrepresentation targeting nurse practitioners in emergency care », *Journal of the American Association of Nurse Practitioners*, vol. 35, n° 6, p. 337, June 2023, doi: [10.1097/JXX.0000000000000875](https://doi.org/10.1097/JXX.0000000000000875).

[15] D. N. Lobo, G. Grimble, N. Delzenne, and N. E. Deutz, « Presentation and Publication Skills: Publication Governance and Pitfalls to Avoid », *Clinical Nutrition ESPEN*, June 2023, doi: [10.1016/j.clnesp.2023.06.010](https://doi.org/10.1016/j.clnesp.2023.06.010).

NEW RESEARCH PRACTICES

Generative artificial intelligence systems, such as ChatGPT:

[16] T. Alqahtani et al., « The emergent role of artificial intelligence, natural learning processing, and large language models in higher education and research », *Research in Social and Administrative Pharmacy*, June 2023, doi: [10.1016/j.sapharm.2023.05.016](https://doi.org/10.1016/j.sapharm.2023.05.016). 

[17] *Nature* (editorial), « Why Nature will not allow the use of generative AI in images and video », *Nature*, vol. 618, n° 7964, p. 214-214, June 2023, doi: [10.1038/d41586-023-01546-4](https://doi.org/10.1038/d41586-023-01546-4). 

[18] R. Paudyal et al., « Artificial Intelligence in CT and MR Imaging for Oncological Applications », *Cancers*, vol. 15, n° 9, Art. n° 9, Jan. 2023, doi: [10.3390/cancers15092573](https://doi.org/10.3390/cancers15092573).

[19] G. A. Poland and R. B. Kennedy, « The use of AI-generated text and scientific publishing: Issues and a way forward », *Vaccine*, vol. 41, n° 28, p. 4065-4066, June 2023, doi: [10.1016/j.vaccine.2023.06.010](https://doi.org/10.1016/j.vaccine.2023.06.010).

[20] A. Salimi and H. Saheb, « Large Language Models in Ophthalmology Scientific Writing: Ethical Considerations Blurred Lines or Not at All? », *American Journal of Ophthalmology*, June 2023, doi: [10.1016/j.ajo.2023.06.004](https://doi.org/10.1016/j.ajo.2023.06.004).

Strengthening integrity with open and participatory science:

[21] H. Hobson, A. Linden, L. Crane, and T. Kalandadze, « Towards reproducible and respectful autism research: Combining open and participatory autism research




practices », *Research in Autism Spectrum Disorders*, vol. 106, p. 102196, Aug. 2023, doi: [10.1016/j.rasd.2023.102196](https://doi.org/10.1016/j.rasd.2023.102196). 

On research integrity issues related to science-policy interfaces:

A Swiss team has identified a number of issues associated with policy evaluation, a field of applied research aimed at the scientific and empirical assessment of the effects of public action. Several of these issues are related to research integrity. For example, political pressure can undermine the independence of the assessment in various ways (censorship, reformulation, reinterpretation of results). There is also a tension between the scientific objectivity of the analysis and the orientation of the conclusions towards the political agenda. These issues arise while scientists responsible for assessing policies faced a legitimacy challenge: maintaining their scientific credibility in the eyes of their peers in academia. The team illustrates these issues through a case study: the evaluation of the medical cannabis policy in Switzerland.

[22] C. Mavrot, S. Hadorn, and F. Sager, « Blood, sweat, and cannabis: real-world policy evaluation of controversial issues », *Journal of European Public Policy*, vol. 30, n° 9, p. 1820-1838, June 2023, doi: [10.1080/13501763.2023.2222141](https://doi.org/10.1080/13501763.2023.2222141). 

[23] R. M. Hughes *et al.*, « Global concerns related to water biology and security: The need for language and policies that safeguard living resources versus those that dilute scientific knowledge », *Water Biology and Security*, Art. 100191, June 2023, doi: [10.1016/j.watbs.2023.100191](https://doi.org/10.1016/j.watbs.2023.100191). 

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INSTITUTIONALISATION

Useful for implementing codes of conduct or other national guidelines:

[24] Y. K. Ong, K. L. Double, L. Bero, and J. Diong, « Responsible research practices could be more strongly endorsed by Australian university codes of research conduct », *Research Integrity and Peer Review*, vol. 8, n° 1, p. 5, June 2023, doi: [10.1186/s41073-023-00129-1](https://doi.org/10.1186/s41073-023-00129-1). 

[25] S. P. J. M. Horbach, M. P. Sørensen, N. Allum, and A.-K. Reid, « Disentangling the local context—imagined communities and researchers' sense of belonging », *Science and Public Policy*, May 2023, doi: [10.1093/scipol/scad017](https://doi.org/10.1093/scipol/scad017).

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