Citation Misconduct: Helping authors keep their papers clean Webinar

13 November 2024





Presenting today

Moderator



Romy Beard

Head of Publisher Relations
ChronosHub



Inke Nähte

Professor & Research Integrity Lead
University of Dundee



Catherine Goodman

Senior Associate Publisher
American Chemical Society



Nick Morley

Co-Founder
Grounded AI



Plagiarism (Plagiarize (and plagiarism) comes from the

Latin *plagiarius* "kidnapper." This word, derived from the Latin *plaga* ("a net used by hunters to catch game"), extended its meaning in Latin to include a person who stole the words, rather than the children, of another.) https://www.merriam-webster.com/dictionary/

Unacknowledged use of another's work as if it were one's own

Examples:

- Inclusion of more than a single phrase from another's work without the use of quotation marks and acknowledgement of source
- Summarising another's work by changing a few words or altering the order of presentation without acknowledgement
- Copying another's work
- Use of another's idea(s) without acknowledgement or presentation of others'
 work as if it were own
 of Dundee

Prof. Inke Näthke

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Citations:

Professional practise: Citing sources is a standard scholarly practice

- Credits original authors/creators of ideas by acknowledging and showing understanding of their work (including images, tables, graphs etc.)
- Guides readers to (original) sources
- Provides supporting evidence for arguments and the role of previous work in developing new ideas
- Avoids plagiarism by accurately presenting someone else's ideas as theirs (not own)



Expected Professionalism in Research/Scholarly work

- Integrity adherence to professional values & standards and ethical practises
- Objectivity factual accuracy "The Data is the Data"
- Honest and clear communication including acknowledging sources of information accurately
- **Respect** listening to others' opinions, treating others fairly, and respect entire academic community (including immediate peers).
- Responsibility to society including funders (charities, taxpayers) report/project the complete picture, engage/inform the public
- Reproducibility create solid foundation to build on



Training

TIPS FOR AVOIDING PLAGIARISM

WHAT IS PLAGIARISM?

The appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

1

Always acknowledge the contributions of others in your work

2

Identify the citation source when paraphrasing or summarizing

3

Provide a citation when in doubt about facts or common knowledge

4

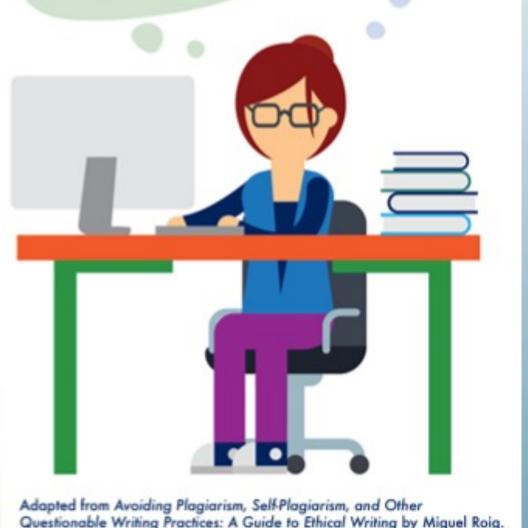
Always enclose verbatim text in quotation marks with an accompanying citation

(5)

Cite primary sources of information not secondary or tertiary

"Don't plagiarize. Express your own thoughts in your own words.... Note, too, that simply changing a few words here and there, or changing the order of a few words in a sentence or paragraph, is still plagiarism. Plagiarism is one of the most serious crimes in academia."

"You paraphrase appropriately when you represent an idea in your own words more clearly and pointedly than the source does. But readers will think that you plagiarize if they can match your words and phrasing with those of your source."



UG - Masters - PhD students

Lectures with examples and practise sets
Workshops with hands-on practise
Writing workshops for thesis (Honours,
Masters, PhD) including how to cite
Handbooks to accompany workshops
Open meetings for all on research integrity in
general



Problems/issues

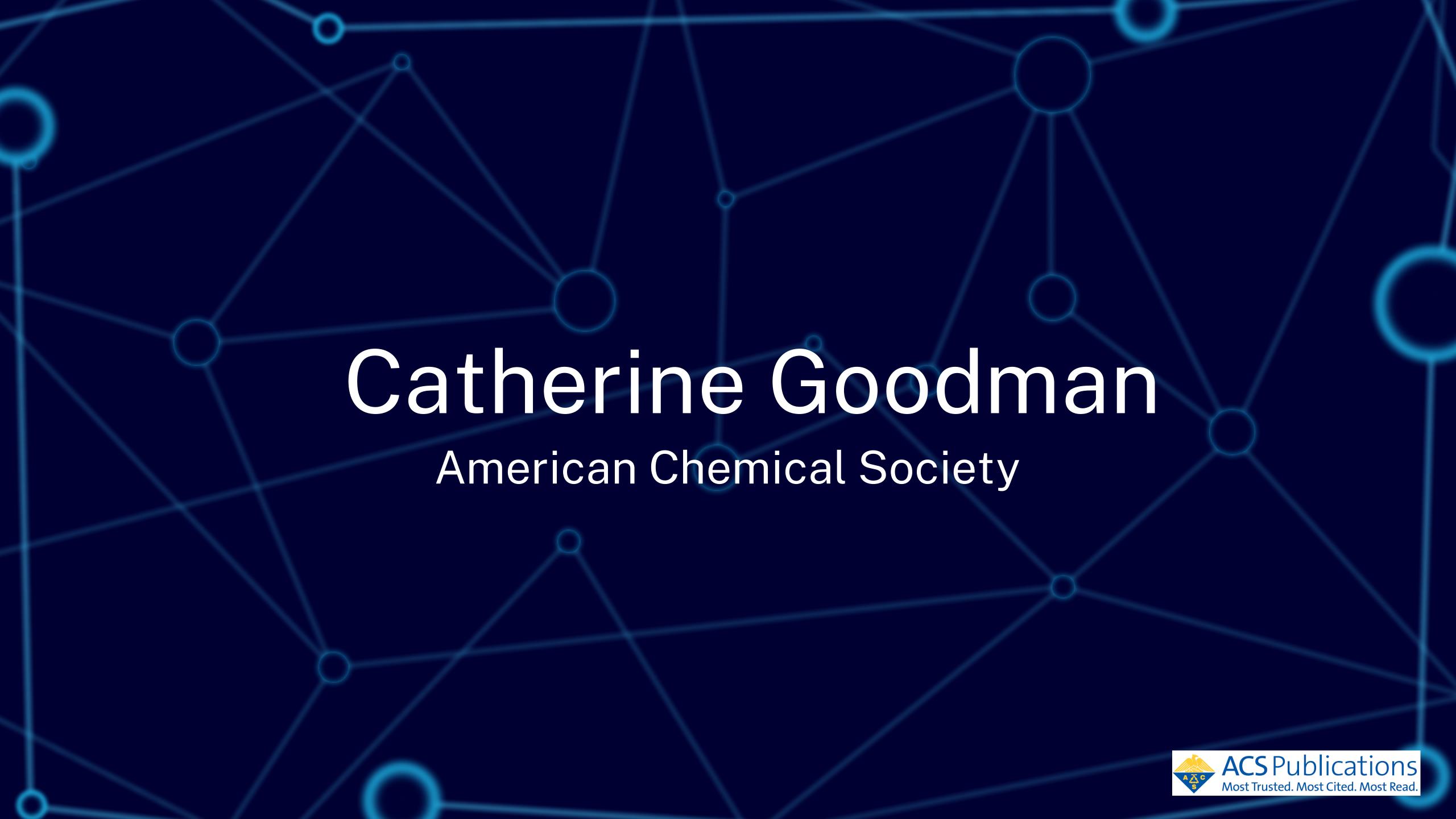
Who to cite for what?

 Different circles in fields may have different opinions about relevance of contributions. Cronyism. Who really was first?

Citation(s) received as a reward

Citation mills, predatory journals, self-citations





Citations from a publishing perspective

Reference:

- Chiti, F.; Dobson, C. M. Protein Misfolding, Functional Amyloid, and Human Disease. *Annu. Rev. Biochem.* 2006, 75 (1), 333–366.
 https://doi.org/10.1146/annurev.biochem.75.101304.123901.
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- Balch, W. E.; Morimoto, R. I.; Dillin, A.; Kelly, J. W. Adapting Proteostasis for Disease Intervention. Science 2008, 319 (5865), 916–919. https://doi.org/10.1126/science.1141448.
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- (10) Acharya, N.; Jha, S. K. Dry Molten Globule-Like Intermediates in Protein Folding, Function, and Disease. J. Phys. Chem. B 2022, 126 (43), 8614–8622. https://doi.org/10.1021/acs.jpcb.2c04991.
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 (13) Raskatov, J. A.; Teplow, D. B. Using Chirality to Probe the Conformational Dynamics
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 https://doi.org/10.1021/acs.biochem.8b01013.

- Help editors (and referees) understand the context in which the work was conducted, answering questions about novelty and impact

- Help referees assess whether experiments have been done in an appropriate manner and are clearly articulated so future researchers can adopt the same methods
- Help readers see how scientific findings build on each other, including where results directly support past findings and where they diverge





Citations from a publishing perspective

- (1) Chiti, F.; Dobson, C. M. Protein Misfolding, Functional Amyloid, and Human Disease. Annu. Rev. Biochem. 2006, 75 (1), 333-366 https://doi.org/10.1146/annurev.biochem.75.101304.123901.
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energetically more favorable compared with targeting larger, fully formed β -aggregates. By intervention at the precursor stage, there may be an opportunity to disrupt or prevent the subsequent aggregation process, potentially halting the progression of full-length TDP-43 aggregation-related diseases.

eover, gaining a structural understanding of full-length TDP-43 in its partially unfolded state is essential for designing small molecule inhibitors. These inhibitors could be designed to bind specifically to the exposed hydrophobic regions or other key structural elements involved in the aggregation process, thereby stabilizing TDP-43 in its native state or preventing its transition to aggregation-prone conformations. This targeted approach holds promise for the development of therapeutics aimed at combating amyloid-related diseases by

ASSOCIATED CONTENT

Supporting Information The Supporting Information is available free of charge at

interfering with the early stages of protein aggregation.

The origin of the mathematical equation used to fit the infolding transition data during the $N \Rightarrow U$ transition The origin of the mathematical equation used to fit the unfolding transition data during $MG \Rightarrow PUF \Rightarrow U$

NTD of Human TDP-43: Protein PDB ID. 5MRG. tRRM domain of Human TDP-43: Protein PDB ID. 4BS2. CTD of Human TDP-43: Protein PDB ID. 2N3X. TARDBP gene: Gene ID. 23435. TAR DNA-binding protein 43 (TDP-43): UniProtKB entry Q13148 (TARDBP HUMAN).

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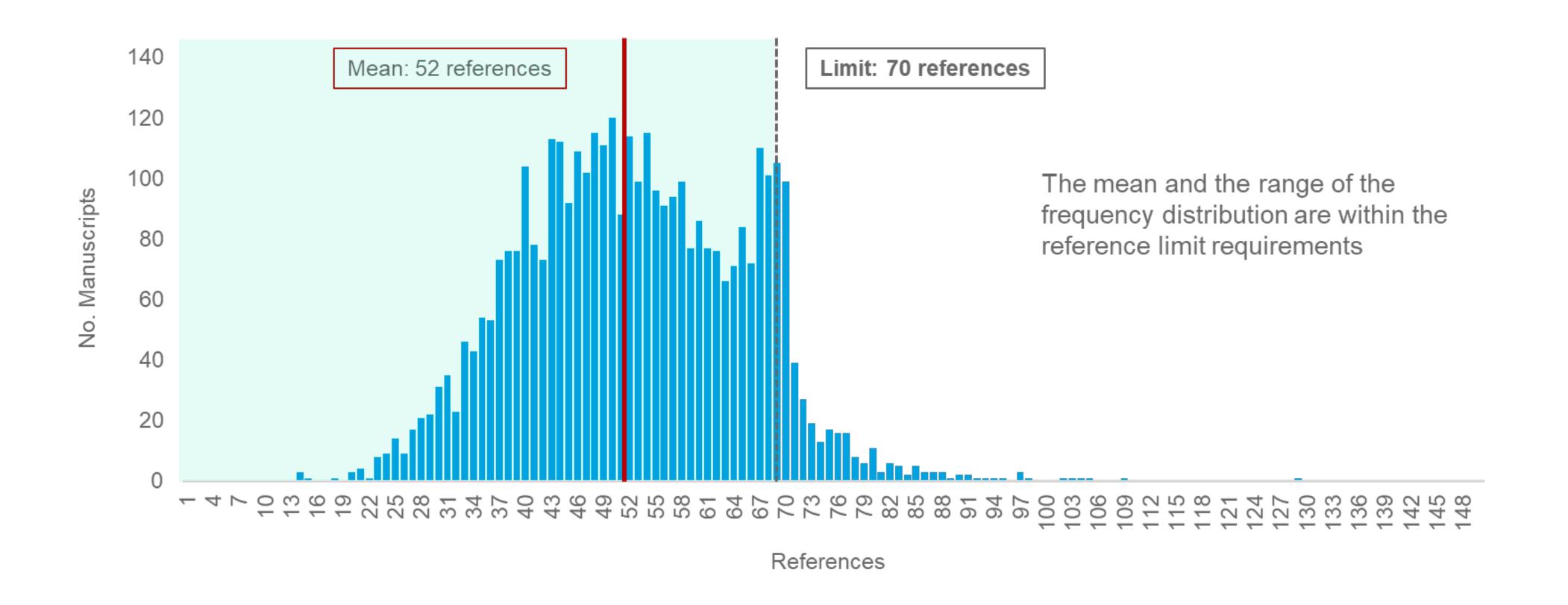
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- References used to be more constrained by actual printing
- Online only publication & new tools simplify production processes



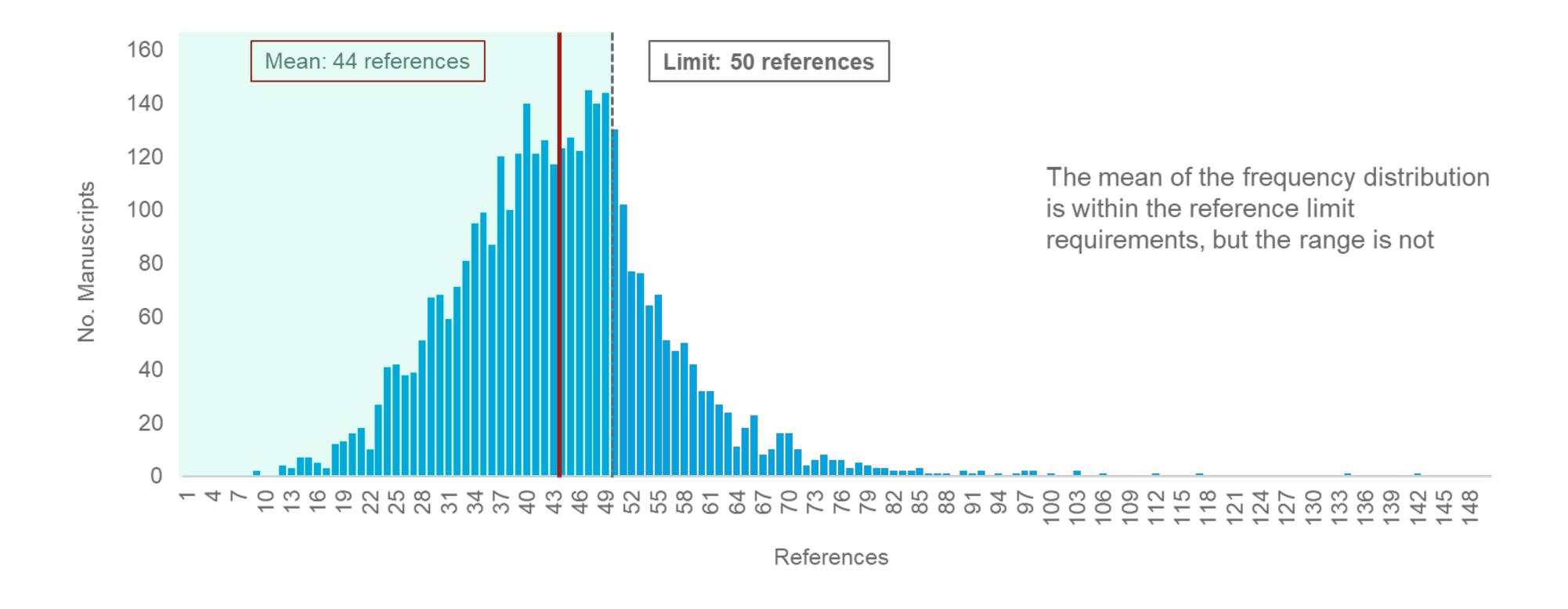
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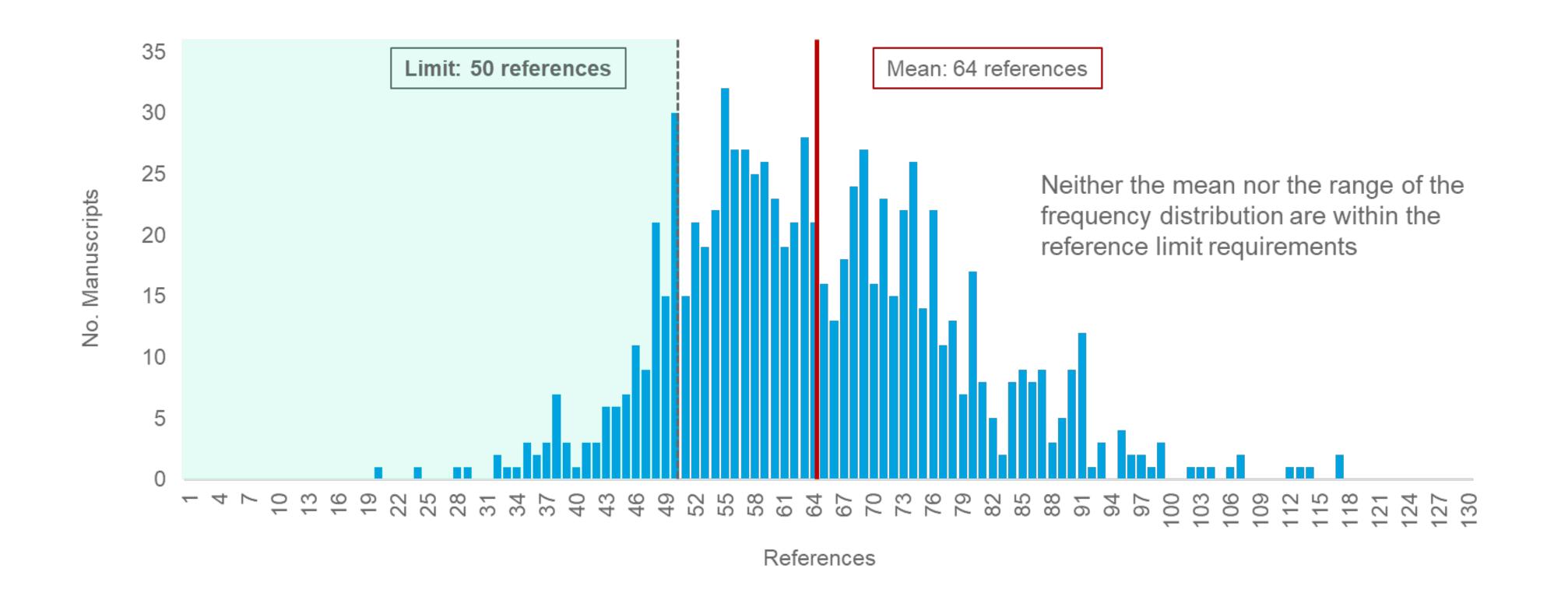
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Journal limits "considered"



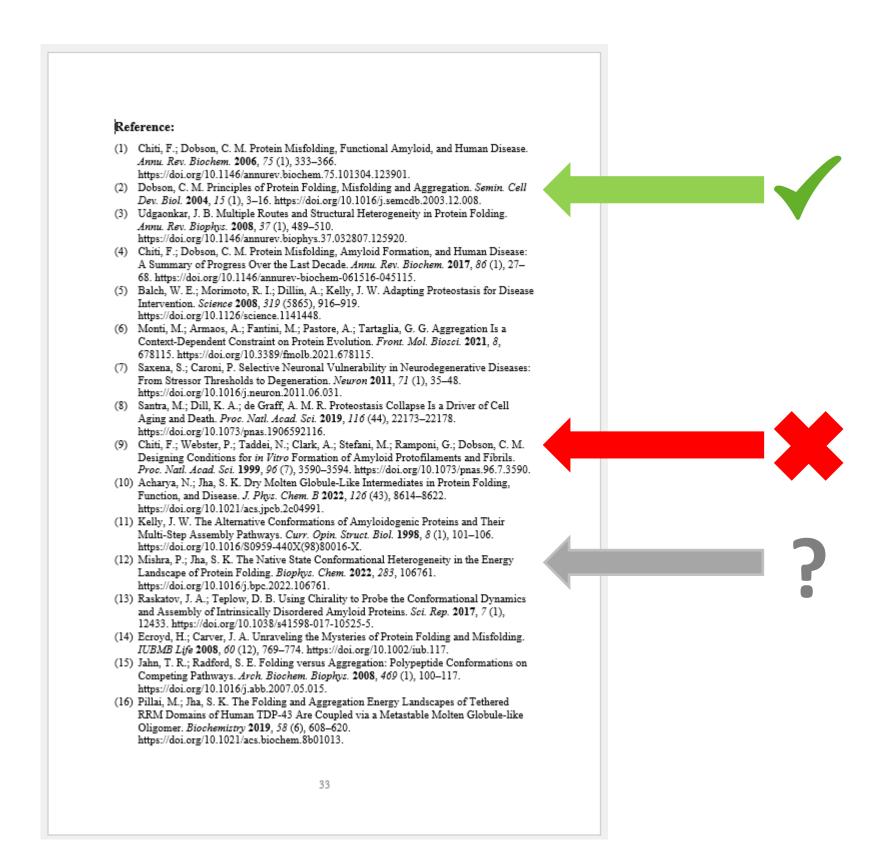
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Citations in the modern day



Current constraints reflect time required by editors and referees to review citation lists



Citations feedback: What do referees say?

Requests for new references can result from:

- Awareness bias
- Knowledge of retractions or other problems
- Knowledge of additional papers (including in the same journal) that are timely and highly relevant
- Additional support for the authors' arguments Wanting to add citations to their own/collaborators work

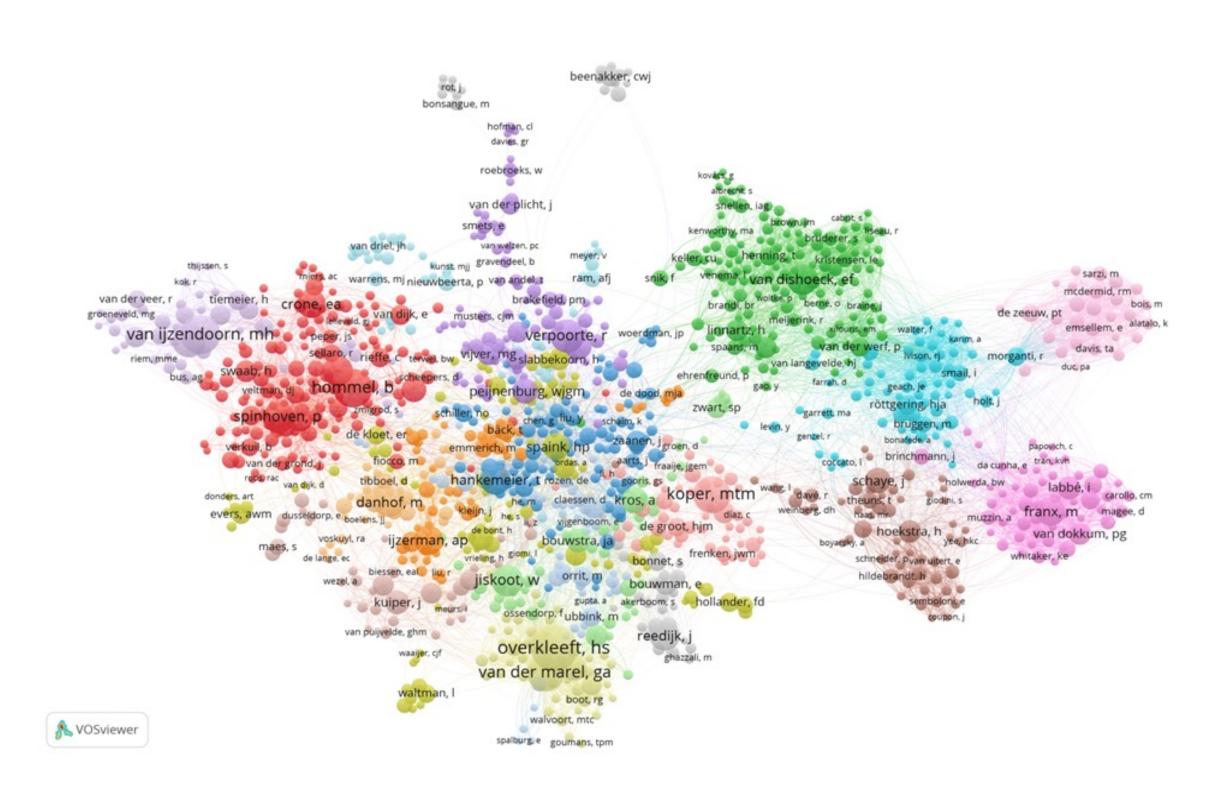


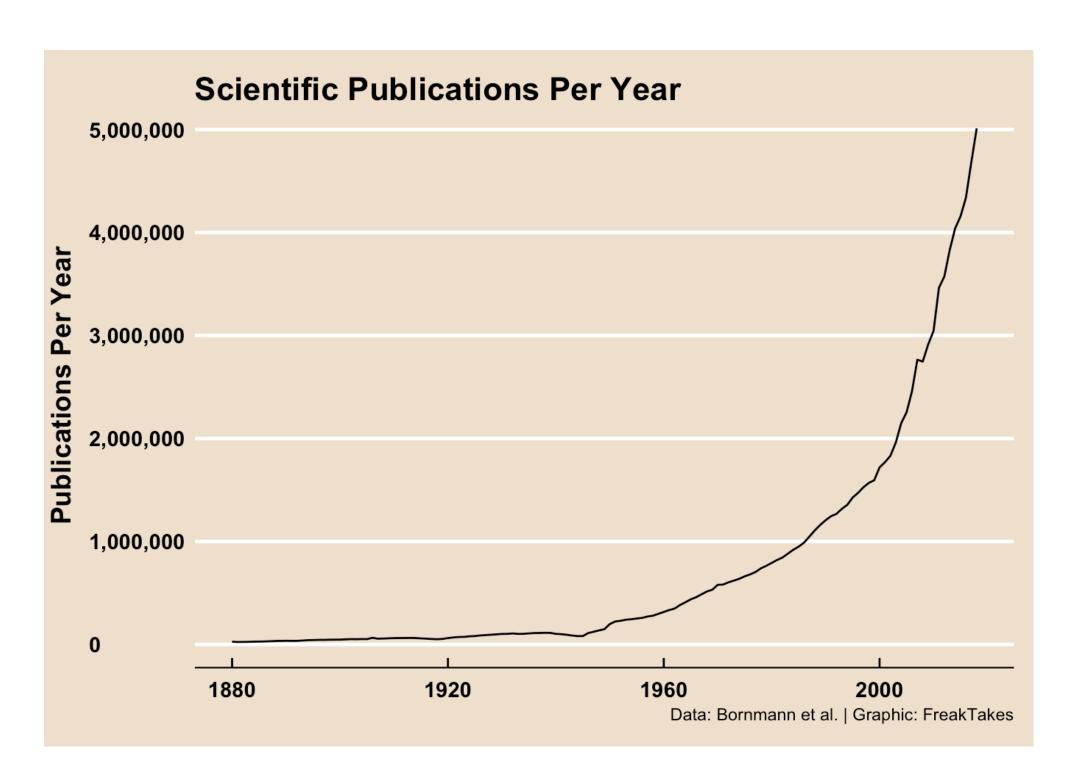
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Citations input: How should authors respond?

Requests for new references should be addressed by:

- Incorporation of new references, if appropriate (and they are within journal limits)
- Declining to add new references, with explanations, if the author finds them not relevant or not covering new ground
- Authors should also alert the editor if the references requested are both not relevant and seem focused on a particular group(s)



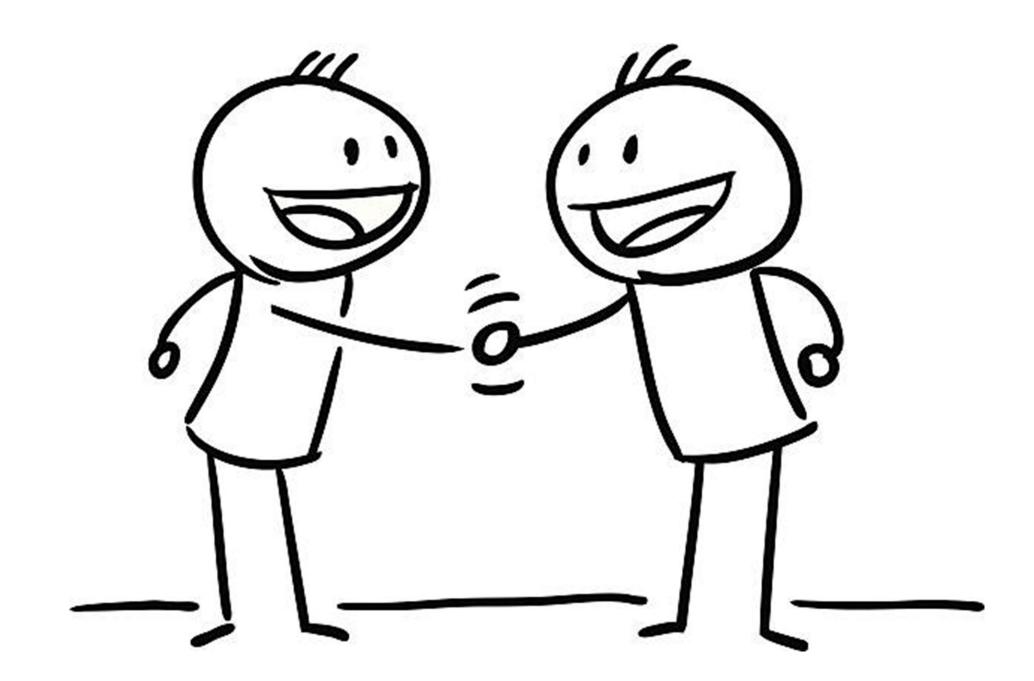
https://www.freaktakes.com/p/what-shouldnew-age-research-organizations



Citations mediation: How should editors resolve?

Requests for new references should be evaluated carefully:

- Be aware that authors feel pressure to respond positively to all referee comments
- If an author declines to add new references, review the explanation.
 Consider whether the request is truly meaningful vs. checking a box
- If an author raises concerns about the references requested, review referee behavior and remind them of best practices or discontinue use







Prevalence of Citation Issues in Scientific Literature

- "Up to 25% of all citations in the general scientific literature are inaccurate" (<u>Peoples & Østbye, BMJ, 2023</u>).
- A meta-analysis examining 28 studies on citation accuracy in medical journals estimated major, minor and total quotation error rates of 11.9%, 11.5% and 25.4% (Jergas & Baethge, 2015).
- "Inaccurate claims and citations [were found] in every reviewed article and 6.6% of all inline citations" (Homeier et al, 2024).

This is set to increase with growing use of Al:

Models such as ChatGPT demonstrate high hallucination rates of citations, up to 55% (Walters and Wilder, 2023).



Citation Issues Taxonomy



Citation Issues Taxonomy

Many ways to get it wrong!



Hallucinated references, Al-generated

Examples

and acetate, are produced through the fermentation of dietary fibers by gut bacteria (Koh et al., 2016). These metabolites can traverse the BBB and exert anti-inflammatory effects by modulating microglial activation, enhancing regulatory T cell (Treg) function, and suppressing pro-inflammatory cytokine production (Erny et al., 2015; Furusawa et al., 2013). Moreover, dysbiosis, an imbalance in the gut microbial community, has been implicated in exacerbating neuroinflammatory conditions. Animal models have demonstrated that germfree or antibiotic-treated mice exhibit heightened neuroinflammation and accelerated disease progression, underscoring the protective role of a balanced gut microbiota (Mizuno et al., 2017; Jangi et al., 2016).

Furthermore vagus nerve, fibers can se neuroinflam crosstalk sug strategy to a intervention mitigate neu

▼ 22: ! Source not found

The citation **Jangi et al., 2016** could not be found.

The closest match is a paper titled Importance of Diversity: Inclusion of Duodenal Sampling Enhances the Study of Microbial Composition During the COVID-19 Pandemic, but this does not support the claim about dysbiosis and neuroinflammation.

cut and the brain involves the ervous system. Vagal afferent brain, influencing 2018). This neuroimmune robiota could be a viable s, prebiotics, and dietary e microbial balance and Ma et al., 2019).



Citation Relevance Unclear

Examples

reflectivity of the water column. Such reflections are sensitive to temperature changes as small as 0.03 degrees Celsius (Nandi et al., 2004; Sallares et al., 2009). SO is unique among oceanographic

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(1987)

as they

▼ 57: ? Citation Relevance Unclear

Match found: Sallares, Biescas, Buffett, Carbonell, Danobeitia, & Pelegri (2009). Relative contribution of temperature and salinity to ocean acoustic reflectivity. *Geophysical Research Letters*. http://dx.doi.org/10.1029/2009gl040187

The citation does not explicitly support the claim regarding the sensitivity of reflections to temperature changes as small as 0.03 degrees Celsius. The paper discusses the relative contribution of temperature and salinity to ocean acoustic reflectivity, highlighting that a significant portion of reflectivity is due to temperature contrasts. However, it does not specify the sensitivity to temperature changes of 0.03 degrees Celsius. Further analysis of the full text may be required to determine if such sensitivity

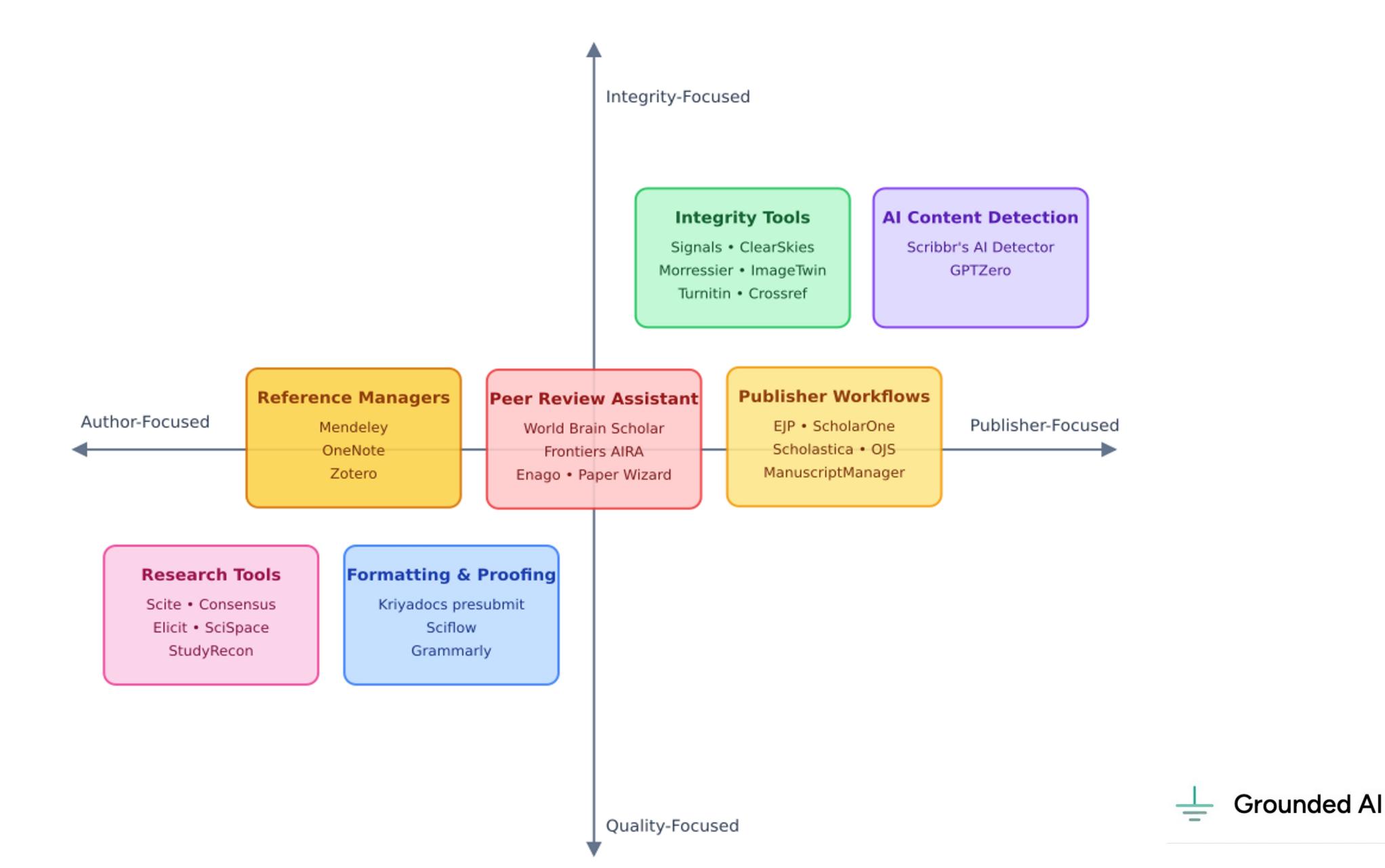
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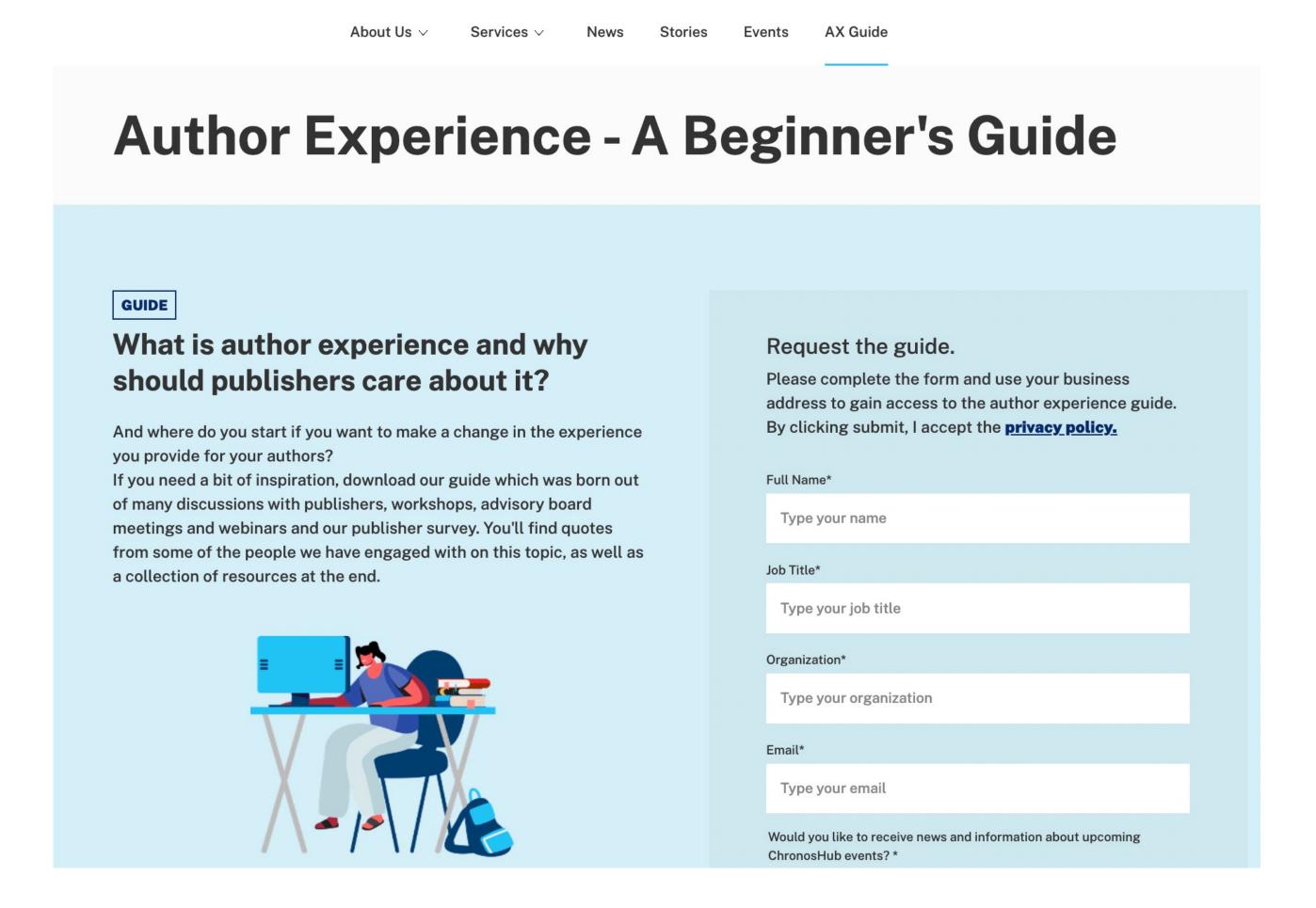
Author and Publisher Support Tools, 2024







Author Experience: A Beginner's Guide

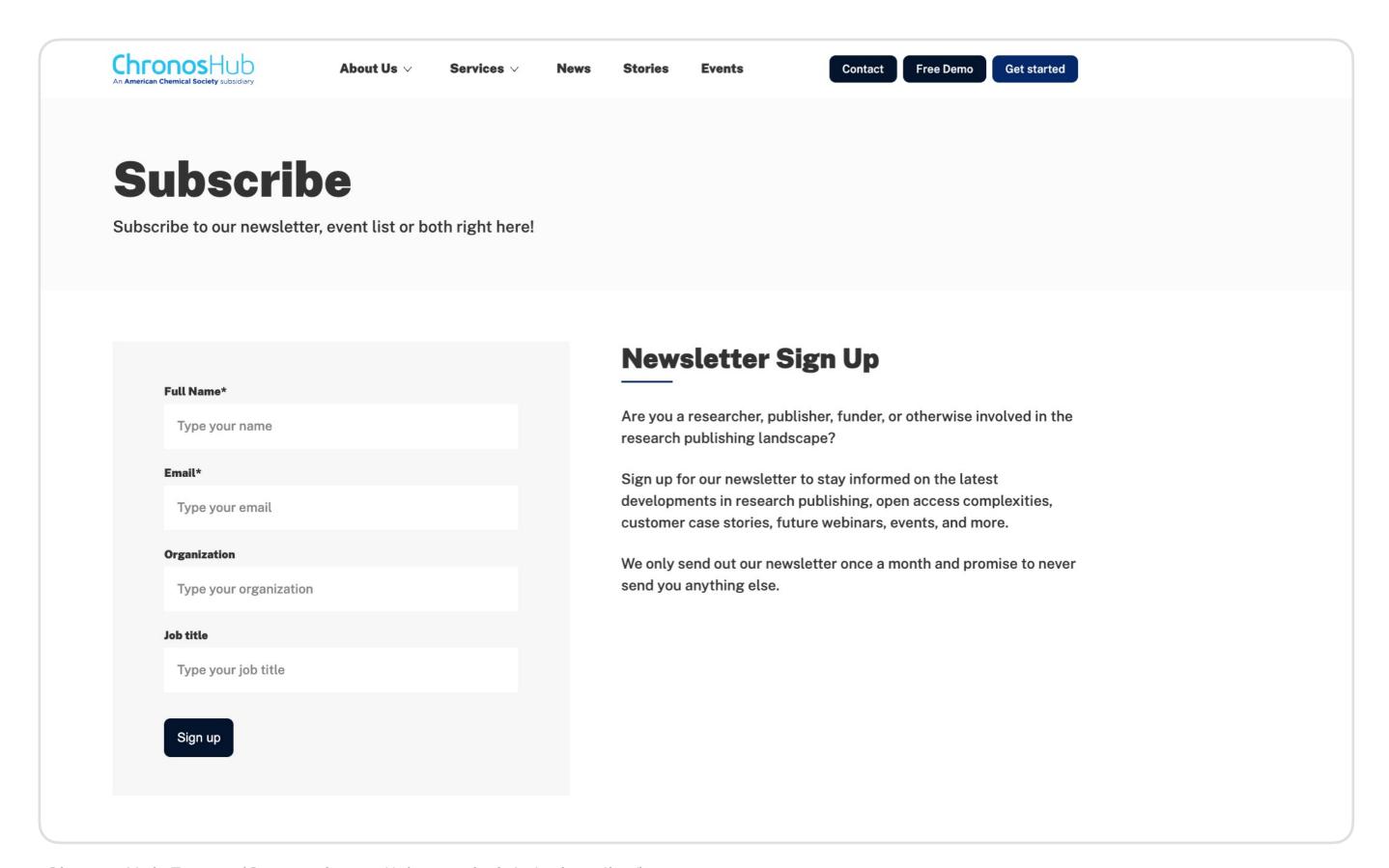


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https://chronoshub.io/author-experience-a-beginner-s-guide/



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