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On the cover: The cover of this issue of *Science Editor* is a "photomicrograph of a close-up view of the pupil and iris in a human eye." The size of the pupil (black) is controlled by the iris (bluish white) in reaction to stimuli, including light, physical activity, and emotional reactions. Pupil dilation can be useful in detecting artificial intelligence-based replicants via the Voight-Kampff test (https://nautil.us/the-science-behind-blade-runners-voight_kampff-test-236837/) (at least according to Blade Runner). **Credit:** Human eye with blue iris. Macroscopic Solutions. Source: Wellcome Collection (<https://wellcomecollection.org/works/xz7y9te3>). (CC BY-NC 4.0; <https://creativecommons.org/licenses/by-nc/4.0/>)



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AI Editing: Are We There Yet?

Rachel Baron

Abstract

Recently emerged artificial intelligence (AI) tools, such as ChatGPT, have the potential to facilitate all aspects of academic research and publication. Over the past year, we have rigorously tested several generative AI models to explore how we can use the technology to refine our editing. This article presents a summary of our findings, identifying the strengths and weaknesses of AI tools for editing and highlighting some of the ongoing challenges we have encountered in incorporating these tools into our editing process. The insights provided by our testing should help both authors and editors make decisions about which editing tasks AI can be effectively used for and which tasks are best left for human editors.

The introduction of ChatGPT (from OpenAI) in November 2022, followed by other generative AI models such as BERT (from Google), has revolutionized many aspects of our lives. The initially intense debate around its use in academia has abated somewhat, as the early ethical issues have been mostly resolved and the answers to various questions have become clearer. AI has various potential uses for almost every aspect of academic research, from scoping initial research ideas to analyzing data, proofreading manuscripts, and identifying suitable journals for article submission.¹⁻³

Along with the initial hype came numerous reports of AI's spectacular "fails," some of which were amusing, and others more troublesome. The main problem with its use for academic research is its tendency to "hallucinate," whereby it presents facts and even references that look plausible but are completely invented (e.g., Bhattacharyya et al⁴). Another issue with generative AI is that it tends to reproduce inherent biases and stereotypes that exist in the training dataset.⁵ While these problems are of concern, they are not the focus of this paper. Here, we aim to provide insights into the utility of AI tools for editing and proofreading academic text.

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We recently published the findings of a survey we conducted with our clients at 2 timepoints in 2023, asking them about their attitudes toward, and use of, AI-based editing and writing tools.⁶ In that article, we cautioned against using AI without postediting by a human editor. Here, we elaborate on the findings of our extensive testing of ChatGPT and other AI-based editing tools for editing academic papers written by multilingual researchers. As a company providing editing services to researchers and authors across Asia, we consider AI to be both a threat and an opportunity. As AI becomes increasingly sophisticated and accepted, it poses a risk to many people's jobs, not just those in the editing industry. However, it is also an opportunity that we anticipate will help us to improve our services and reduce our costs, which we can then pass on to our clients. Our mission is to help multilingual writers to disseminate their research, and AI has great potential to further level the playing field by eliminating or reducing language barriers for authors.

Some of the challenges associated with using AI editing tools may well be resolved as the technology develops. However, there seems to be an inherent limitation in large language models such as ChatGPT, which are pretrained on a massive corpus of data and work by predicting the most likely next word based on the probability of words occurring together. Whereas a human editor retains an overall view of the paper in mind when reading each paragraph or section, AI tools are only trained to find the word with the highest probability of appearing next. In fact, they do not even work at the word level, but split up words into shorter chunks referred to as "tokens," so they are actually predicting the next most likely token to appear. This involves no analysis or understanding of the text, which can lead to the kinds of distortions of meaning and errors that we report here.

Obtaining the result you are looking for with AI tools is not an easy task. It is simple enough to provide the tool with an instruction such as "copyedit the following text," but the result is unlikely to be satisfactory. Writing useful instructions, or "prompts," requires a lot of trial and error combined with expertise in analyzing the output. This is what we have focused our efforts on over the past 18 months, and we report our findings here.

We expect this article to provide useful insights for copy editors, journal editors, authors, and others interested in the use of AI for editing purposes, which will help them to understand the strengths of AI, while being aware of its shortcomings. We do not aim to dissuade people from using AI tools, as they undoubtedly have a growing place

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in every writer's toolbox; rather, we aim to highlight areas where caution should be applied in their use. We also do not aim to review the use of AI tools for the numerous other academic tasks that it may be useful for, such as designing studies, summarizing the literature, analyzing data, and helping to write the initial draft of a paper, as these are outside the scope of this article.

Practicalities and Ease of Use

Although AI tools, such as ChatGPT, are readily available and simple to use, their limitations present various practical challenges for authors and editors. A major limitation is that when using a browser-based interface, there is a limit to the amount of text that can be copied into the chat window for editing. This limit is currently 4,096 characters in ChatGPT 3.5, which is far short of a typical research paper. This means the tool cannot edit the paper as an entire document, which creates various practical problems with breaking up the file into smaller parts and reassembling them. A greater problem, however, is that without the full context, the editing cannot take account of the content and style in the other parts of the paper, which leads to inconsistencies and repetition.

The limit for ChatGPT 4 is much higher, at around 25,000 words, but this is a subscription service that still does not overcome the more serious problems encountered with the free version. There are various ways to get around the word limit in the free version, yet none of them are capable of ensuring consistency across a document, a task that is second nature to human editors. While this can be overcome by incorporating some additional editing time after the AI edit, it does not solve the more serious problem that we have consistently encountered when trying to edit whole papers: After processing more than a few hundred words, ChatGPT seems unable to cope and starts deleting large chunks of text and replacing them with single-sentence summaries.

Other issues include losing formatting when copying and pasting between Microsoft Word and the AI editor. None of the versions we have tested are able to distinguish textual elements, such as headings, which it tends to incorporate into the main text. These changes have to be identified and the headings reinstated when the text is copied back into Word. Similar problems occur with footnotes, tables, and other nontextual elements, such as equations, meaning that the main text must be copied in short chunks to avoid these elements.

Rather than copying and pasting text into a browser-based chat window such as ChatGPT, an increasing number of add-in tools are being developed for Word that are based on ChatGPT and perform the editing or make suggestions directly within the document. The suggestions appear in a pane alongside the main text, which can then be accepted or rejected. This method has the advantage of viewing the

suggested changes in the familiar environment of Word with the changes tracked. The tools usually offer various prompts to vary the level of editing, although we have not yet found one that offers the right balance between under- and over-editing. We cover this in more detail in the following section. A great disadvantage of these tools is that the editing is done at the sentence level, which again, creates problems with inconsistency and repetition. For example, abbreviations are redefined each time they appear because the AI tool does not recognize they have already been defined. Concepts and definitions of terms are also re-explained and redefined, leading to a great deal of redundancy. In the following example, the four groups had already been defined and referred to earlier in the paper, but as the AI editor does not remember this contextual information, it attempts to provide a definition:

Section II examines four different groups of people who want to make changes to the fourway reformthingsampsare (done. These groups are called reform rejecters, incrementalists, systemic reformers, and IIA quitters). inThe termssectionoftalks theirabout respectivewhatpositions each group thinks and thewhat measuresthey want to bedotaken-to advance make their proposedideas reforms happen.

These suggested changes can, of course, be rejected, but because they are enmeshed with the more useful changes, it takes a lot of effort to distinguish necessary from unnecessary changes and diminishes any time savings that might have been gained from AI editing.

Another problem with Word-based add-ins is that they do not always allow the changes to be transferred from the viewing pane to the document itself without creating problems with the formatting. This can occur if the text contains footnotes, reference fields, equations, and other nonstandard text. Again, this is not a fatal flaw, but it does require additional time to implement the suggested changes in the document. In documents containing many such elements (e.g., any document in which references have been inserted using referring software), this might mean making every change manually.

Editing Quality

AI can produce excellent quality text in grammatically perfect English. However, it does not do so reliably and consistently, and its performance in some areas can be quite poor. Editing with AI is not as prone to some of the more well-known problems encountered with text generation, such as the tendency to "hallucinate" and invent nonexistent citations. However, it throws up sufficient problems to make us wary of using it without a high level of oversight. We outline some of these problems in the following sections.

Depth and Accuracy of Editing

Human editors should aim to edit text in such a way that it retains the author's voice and preserves the intended meaning. We try

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not to make unnecessary changes, first, because doing so takes additional time that clients must eventually pay for, and second, because we should always respect the author's own style and word choice, where appropriate. AI takes neither of these things into consideration. Prompts that ask the AI to edit lightly tend to do little more than correct gross errors, but allowing it free reign by asking it to, for example, "edit the following text," inevitably results in a complete rewrite that leaves little trace of the author's original style. Perhaps some authors do not object to this; however, our experience suggests that many authors do not welcome the wholesale deletion and rewriting of text and consider the unnecessary substitution of close synonyms (e.g., shows → indicates, meaningful → significant) pointless at best. We have yet to find an AI editor or prompt that prevents this kind of rewriting; even including instructions such as "do not substitute synonyms" in the prompt does not stop it from doing so.

The following excerpt illustrates these problems. The first sentence, along with its references, is deleted entirely. The second sentence contains an unnecessary synonym substitution (examine → investigate). The change in tense from past to present is incorrect because the study has been completed. The change from "the co-influence" to "the relationship between" alters the intended meaning, as the author really did mean "co-influence": the focus in the edited version is on the relationship between "team manager's interpretation and inconsistent mental models" rather than their combined effect on team effectiveness.

Editing that changes the author's intended meaning in this

As the core process of cognition, interpretation and sense-making are crucial to mental models and deviance of organization, organizational supports and colleagues interpretation would reduce the deviant behaviors and negative effects of inconsistent mental models (Weick, 1995; Tuzun et al., 2017). Thus, the purpose of the current study was to examine investigate the co-influence of relationship between team manager's manager's interpretation and inconsistent mental models on team effectiveness, especially with a focus on examining the moderating effect of interpretation on the relationship between inconsistent mental models and performance. Based on the questionnaire of interpretation mode developed by this study firstly, after extensive The study employs a questionnaire survey, examined to gather data and determine the co-effect of interpretation and inconsistent mental models on team performance. Figure 1 depicts our overall The research model is depicted in Figure 1.

way is highly problematic. Scientific writing must be accurate, above all else. Multilingual writers understandably struggle to express their meaning clearly, and the editor's job involves deciphering meaning from ambiguous and unclear writing. We are not infallible, but our years of expertise and field-specific academic knowledge mean that we get it right most of the time. When we are unsure, we leave a comment explaining why the meaning is unclear and offering suggestions for improvement. In contrast, given a string of words that do not immediately express a clear meaning, an AI editor will make a best guess based on the probability of particular words following one another, rather than on some inherent sense or understanding

of the text. Sometimes this will result in a perfectly written sentence that clearly expresses the author's intended meaning. At other times, it will result in superficially correct nonsense, or at least a distortion of the intended meaning. Unfortunately, AI tools aim to please by always offering a suggestion, which does not necessarily equate to an improvement.

Some authors are able to easily spot such changes and correct them. However, to do so can require a command of English that many multilingual writers do not possess. If they were able to express the meaning clearly in the first place, there would have been no ambiguity in the original text, and the change of meaning would not have occurred. Indeed, the task of spotting changes in meaning is not trivial, even for our expert editors. Given that AI editing often produces superficially well-written sentences, the editor doing the post-AI checking needs to continually go back and forth between the original and the edited text to spot any infelicitous changes. Some of these may be relatively trivial, but given the nature of scientific research, they have the potential to be disastrous. We have found the task of checking for changes of meaning to be so time consuming that it often eliminates any gains from the initial AI editing.

To avoid the potential for changes of meaning, it is possible to use alternative prompts, such as "proofread" or "edit the text for grammar only," that avoid excessive editing and make it much easier to check for inappropriate changes. However, this creates the opposing problem of under-editing, requiring further human editing to fix awkward syntax and ambiguous phrasing.

Grammatical Correctness

AI is very good at correcting basic English grammar, and we have encountered few serious problems in this area. However, a few things have given us cause for concern, some of which are described here.

Articles

We find many errors in AI's use of definite and indefinite articles, often because it does not recognize the context. For example, whereas we would always use the definite article before common nouns such as "participants" and "results" when referring to the present study, AI editors generally do not. Multilingual writers also struggle to understand the nuances of article usage, so we assume they would find it difficult to identify such errors. However, it is not only incorrect but also confusing to omit articles where they are needed. For example, we should assume that a sentence that begins "Results show that..." refers to results in general, perhaps from numerous studies. However, "The results show that..." changes the meaning so that the reader now knows "the results" are those of the present study. The following is an example of where the AI editor incorrectly deletes "the," creating a grammatical error:

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In our study, the SRMR = 0.044, NFI = 0.899, GOF = 0.758, and R2 (AM medium = 0.548, AP large = 0.858, ASE medium = 0.580, AB medium = 0.558) values for academic performance showed good predictive relevance.

Subject–Verb Agreement

Although AI editors rarely make agreement errors in simple sentences, they are prone to do so in sentences where the subject (noun) does not immediately precede the verb. In the following example, the verb “to be” belongs to the subject “governance quality” and should be in the singular form “is”; however, in the AI-edited sentence it is changed to “are,” presumably because it perceives the verb as belonging to the plural “processes and institutions.”

Governance quality refers to how well the processes and institutions of public governance function, and are widely recognized as having an important influence on human well-being.

Verb Tense

Correct and consistent use of verb tense is one of the most difficult aspects of English grammar for multilingual writers, and the problem is compounded by differences in norms across academic fields. Overall, we are not particularly impressed by AI’s ability to select the correct verb tense for the context. For example, in the following excerpt from an abstract, the verb tense for describing the study should be in the simple past tense, but the AI editor changed it to present tense. Given the study has been completed, it does not make sense to refer to its aims in the present tense. Furthermore, we would at least hope to see all associated verbs in the same tense, yet the subsequent sentence switches to past tense when stating what was investigated.

Original: This study compares the mental health of medical, nursing and administrative staff in the UK emergency department and the comparative orthopaedic department. The study investigated the impact of coping strategies and the support people received from their colleagues (i.e., social support).

AI edited: The study aims to investigate the pressure emergency physicians face. The aim of the study is to determine whether there are any differences in the mental health of staff in these two departments. The study investigated the impact of coping strategies and social support on people.

As the excerpt shows, the AI editing does not improve on the relatively well-written original. It needed only a light edit, yet the edited version reads less well than the original. This example again illustrates how AI can delete important information for no apparent reason. In this case, the reference to the emergency department and orthopaedic department is replaced with “these two departments,” but without naming them, the sentence has no meaning.

In the following example, the AI editor assumes the sentence in the introduction of a paper refers to a specific past event, rather than makes a general statement:

Original: Policy in Hong Kong is developed by ministers appointed politically to head government bureaus.

AI Edited: The policy was developed by ministers appointed politically to head government bureaus in Hong Kong.

“Lost” Elements of Text

Because Word-integrated AI editing tools tend to edit line-by-line, they generally do not take account of the surrounding context. This method has various disadvantages, among which is the loss of the narrative elements of text. As each sentence is treated as a stand-alone statement, AI editors tend to delete words and phrases that link sentences and paragraphs, such as “however,” “therefore,” “in contrast,” and “moreover.” Markers, such as “first ... second ... third” are also deleted and sometimes replaced with “additionally” as the AI editor does not recognize the numbered sequence.

Consistency

An important aspect of copyediting is to ensure consistency of style, terminology, and formatting throughout a document. For example, a human editor will check that all repeated terms are the same, without switching back and forth between near-synonyms. It is not uncommon to find papers that start off, for example, using the term “company,” then drift off into using firm, business, enterprise, venture, corporation, organization, and more, leaving the reader to wonder whether the author really means to imply differences between them or is just attempting to make the text more interesting by providing variety. In almost every paper, we find variations, for example, in the use of singular vs. plural (e.g., “parents and their children” vs. “the parent and their child”); the use of the possessive (e.g., “tribunals’ treaty interpretation process” vs. “the treaty interpretation process of tribunals”); the capitalization and italicization of terms and headings; the presentation of numbers as words or digits; and the reporting of statistics. None of the AI editing tools we have used have been able to ensure consistency in all, or sometimes any, of these aspects of style, which leaves yet another task for the human editor.

Paraphrasing Quotations and Deleting Citations

A rather alarming tendency of AI editors is to take quotations out of quotation marks, lightly paraphrase them, and delete the citation. The following is one such example, although here, at least, the citation was retained:

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This **outcome metric is consistent** **metric aligns** with the traditional Chinese **narrative belief** that the officialdom **was** **a natural outlet path** for outstanding students and scholars² in imperial China (Zhang, 1920).

It hardly needs pointing out that this could put authors at risk of unintentional plagiarism.

Failure to Alert the Author to Unclear or Missing Information

Human editors write frequent comments to the author, querying various aspects of the writing. For example, they might need to ask the author for clarification when the intended meaning is unclear; they will point out missing important information, such as from where a sample was collected; they will prompt the author to add missing references; they will suggest moving sentences or paragraphs to improve the flow; and they will point out inconsistencies between figures reported in the text and in tables, or at different places in the text. None of these issues will be highlighted by an AI editor, and it is much harder for the human editor to add such comments post-AI editing, as they will not engage with the material in as great a depth and may not identify the problems as easily.

AI Signature

Recently, we have started to receive enquiries from customers asking us to make the text “more human,” presumably because they have used AI to assist with the writing. Consequently, we have collected a set of “signature” phrases that alert our editors to the potential use of AI in papers sent to us for editing. The following are a few examples of such phrases, which can often make the text sound more like marketing material than academic scholarship:

- delve/delve into
- tapestry
- leverage
- it's important to note/consider (and similar phrases with “dummy” pronouns)
- remember that
- navigating
- landscape
- in the world of/in the realm of
- embark
- dynamic
- testament
- embrace
- intricate
- excessive use of flowery adjectives (e.g., “meticulously commendable”)
- complex and multifaceted

Of course, these phrases are not exclusively used by AI, but it is worth mentioning them because it helps to be aware

of the possibility that a paper has been written or edited with AI assistance. Editors need to take particular care with such papers because they are more likely than usual to contain distortions of meaning and errors, such as those described above.

Conclusion

Our findings suggest that AI tools are not yet ready to take on the task of editing academic papers without extensive human intervention to generate useful prompts, evaluate the output, and manage the practicalities. Our concerns echo those of previous studies (e.g., Meyer et al⁵, Lingard et al⁷), suggesting that despite the hype and promise, pure AI editing is still some way off.

When we began experimenting with AI editing tools, we were cautiously optimistic that they would soon be able to reduce our editing times and cut the cost of our services for clients. Despite the limitations identified in our testing, we have recently launched our hybrid AI-human editing service. Although our main focus remains on fully human editing, AI-assisted editing is now an option, especially for early-career researchers who find it particularly difficult to access full-priced editing services. Nevertheless, whatever improvements are made to AI editing models, we believe that intervention by a human editor will continue to be an essential step in maintaining the high-quality service that academic editors offer their clients. We hope that our findings help editors and authors to refine the outputs of their own AI-assisted writing and editing.

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Copy Editors Can Play a Role in the Detection and Elimination of “Tortured Phrases”

Jaime A Teixeira da Silva

Copy editors possess a very specific skill set, including linguistic fluidity. In scholarly communication, the work by copy editors translates into text in papers that is scientifically accurate,¹ which can increase the chance of acceptance following peer review.² Five professional features of copy editors that contribute to the accuracy of scientific communication are “clarity, coherency, consistency, conciseness, comprehensibility, and correctness.”^{3(p4)} These elements improve a paper’s style and readability after peer review and prior to proof development and publication.^{4,5} In academic publishing, copy editors are also required to verify the accuracy of references.⁶

When the accuracy of jargon to describe scientific findings is absent, the text’s scientific message becomes ambiguous or misleading.⁷ Copy editors, either in-house or externally contracted, contribute to the accuracy of a journal’s content, usually at the last step of each manuscript’s processing. In an attempt to trim costs and maximize profits, however, some journals or publishers might cut copy editors from the quality control workflow.³ Yet, this decision comes at a risk, namely that erroneous or ambiguous text introduced by authors into their papers may be undetected by peer reviewers and editors, and thus end up in published papers. Although—to the author’s knowledge—there are no economic analyses that have assessed the costs associated with “cleaning up” erroneous literature at the postpublication stage, relative to the employment costs that were saved by removing the copy editor, the current volume of retractions, especially those related to poor quality control,⁸ suggests that scientific and linguistic errors could have been avoided, to some extent, had a copy editor existed (i.e., had journals not cut proverbial financial “corners”).

The role of copyediting in scientific translations,⁹ although an important extension of this discussion, is not explicitly considered in this paper.

“Tortured Phrases” Distort the Language and Scientific Prose of a Paper

The inaccurate description of science and scientific terms, whether these be the background information in a paper’s introduction or discussion, or more technical aspects in the methods or results, can dilute the impact of peer-reviewed scientific literature, and thus its accuracy.¹⁰ “Tortured phrases” is a relatively new term to describe a linguistic phenomenon in which established scientific terms and jargon have been replaced by unconventional or inaccurate ones, usually as a result of the use of artificial intelligence (AI), such as machine-generated translations.¹¹ This implies that there are both a human element, as well as an AI component, that leads to the creation of a tortured phrase. That process, as well as the level of AI-human dependency, might depend on several factors, such as the level of English proficiency, the authors’ level of scientific experience in both research and publishing, or the reliance on AI, such as an online thesaurus, to generate text.

The existence of tortured phrases is not limited to peer-reviewed literature, for which copyediting is generally expected, but may also be found in preprints, where copyediting rarely, if ever, exists.¹² The presence of tortured phrases has also been associated with cases of plagiarism and other ethical infractions¹¹ and is one strategy to avoid the detection of textual similarities and/or plagiarism, by using these odd or unconventional terms.¹³ Tortured phrases can thus serve as primers to detect potentially problematic papers.¹⁴

A hypothetical example follows. A novice researcher in the environmental sciences is not aware that the correct scientific term is “heavy metals.” They use an online translator (a form of AI) to translate text from their native language, with the output “substantial metals.” Thinking that this is the veritable scientific translation, this novice researcher incorporates this tortured phrase into their paper, which is not noticed by the coauthors, peer reviewers, and editors.

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However, a copy editor with experience in the environmental sciences would surely be able to detect this linguistic red flag and correct it prior to the paper's publication.

In one documented set of examples in stress-related biochemical and physiological studies, and as a subset of the environmental sciences, the term "acid" was replaced, via the use of an online translator or thesaurus, by the term "corrosive," such that established jargon (in this case hormones) like "abscisic acid," "jasmonic acid," and "salicylic acid," became incorrectly represented by "abscisic corrosive," "jasmonic corrosive," and "salicylic corrosive."¹⁵ Similarly, Parkinson's disease might be erroneously represented by the tortured phrases "Parkinson's malady," "Parkinson's ailment," "Parkinson's infection," and "Parkinson's sickness."¹⁶

Another possibility is where a run of text through plagiarism detection software reveals a high level of textual similarity. An author, in their desire to reduce that level of textual similarity, opts for a radical procedure, including the conversion of established terms into alternative terms, which can be achieved with an online thesaurus. This, too, results in a textual output that deviates from established jargon. In this case, an attempt to avoid plagiarism can lead to the production of tortured phrases.¹¹

Can AI Replace Human Copyediting Endeavor?

Ultimately, the distortion of accurate science communication, via the introduction of tortured phrases, leads to the emergence of science miscommunication, or inaccurate science communication. In light of the compromised quality of scientific writing that may arise when copyediting is insufficient, when inexperienced copy editors are employed,¹⁷ or when quality is sacrificed at the expense of pressures to publish greater volumes,¹⁸ a desire and need by academia and the publishing industry may arise to be able to detect and transform tortured phrases into standardized terms and jargon by using AI.

Even though there is a level of irony in suggesting that AI is able to correct errors introduced by AI (e.g., the tortured phrases), especially if the introduction of those errors into a scientific paper was overseen by human authors, provisional evidence shows that one form of AI, ChatGPT, has the ability to reverse tortured phrases,¹⁹ thereby allowing accurate scientific jargon to be reintroduced into papers. The use of this large language model (LLM) as a potential solution to the introduction of tortured phrases into scientific papers, namely to remove them and replace them with proper scientific jargon, would serve not only authors who may not have high English proficiency, or may have limited scientific experience in research and publishing, but also journal editors who have to, for whatever reason, remove a quality control step that involves copy editors. In other words, this opens up the opportunity for AI to serve as a copy editor, a

role that has traditionally only been reserved for humans in scientific publishing, or to support experienced copy editors, without replacing the human element. In such cases, journals and publishers have the ethical responsibility of ensuring that their use of AI is properly acknowledged in a published paper, just as authors are held to this requirement.²⁰

Conclusion

This commentary advocates for the need for copy editors in any journal due to their linguistic and technical skills. Where peer reviewers or editors might fail in quality control, especially of finer-scale details in the text, such as distorted technical language or jargon, in the form of tortured phrases, experienced and well-versed copy editors would be able to detect such irregular terminology, and either eliminate it prior to the paper being published, or alert editors of ethical infractions associated with their use, such as those related to plagiarism. There is a need to ensure that specialized copy editors form part of the quality control chain, so that the integrity of standard scientific terms and jargon is guaranteed prior to the publication of papers. Provisional evidence shows that tortured phrases can be detected and corrected by AI (e.g., ChatGPT), suggesting that this LLM could serve in a copyediting role in the future, although this requires extensive testing of different LLMs. Given that the employment of human copy editors would be threatened, the financial and technical feasibility of replacing them with AI/LLM-based copyediting, and not merely lending support, needs to be assessed. That debate has already begun.²¹

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Introducing the NISO Communication of Retractions, Removals, and Expressions of Concern (CREC) Guidelines

Caitlin Bakker

Introduction

Retractions are not inherently bad. They are, in fact, necessary because research and scholarship are constantly evolving, and the scholarly record must be corrected as errors are uncovered, and new information becomes available. Retraction is meant to be a mechanism for this self-correction, “alerting readers to articles that contain such seriously flawed or erroneous content or data that their findings and conclusions cannot be relied upon.”¹

Despite the importance of these corrective mechanisms, research has shown that this information is often inconsistently displayed,²⁻⁵ meaning that readers may be unaware of the fact that an article has been retracted. Such retracted publications may be subsequently perpetuated through ongoing citations that reinforce their findings.⁶⁻⁹ This ongoing, inappropriate use of retracted publications undermines the role of retractions as a corrective mechanism.

Although retraction remains a relatively rare occurrence, the number of retractions is consistently increasing and will likely continue to rise.¹⁰ The decision to retract, remove, or issue an expression of concern is complex, requiring that publishers consider the nature of the concern, the trustworthiness of the findings, and the potential impact of the work. Organizations, such as the Committee on Publication Ethics (COPE), have provided extensive guidance on when retractions are appropriate and how publishers can navigate

this decision making process.¹ However, a similar level of guidance has not been available when considering how to communicate these decisions, particularly across systems.

Effective dissemination of retraction information is essential for a healthy scholarly communication ecosystem. In a predigital era, libraries maintained lists of retracted publications at reference desks and annotated print materials to indicate retracted status.^{11,12} These manual, print-based processes established consistency. Although these isolated strategies no longer meet needs, no consistent, cross-industry guidance is available, and inconsistency has emerged.

NISO and the Communication of Retractions, Removals, and Expressions of Concern

NISO,¹³ a nonprofit membership organization, aims to “identify, develop, maintain and publish technical standards and recommended practices to manage information in today’s continually changing digital environment.”¹⁴ NISO promotes interoperability and communication among libraries, publishers, and vendors worldwide, making it ideally positioned to help address the challenge of communicating retraction-related information.

Following the 2021 NISO Plus conference, and with support of the Alfred P. Sloan Foundation, the NISO Communication of Retractions, Removals, and Expressions of Concern (CREC) Working Group was formed. The working group consisted of over 2 dozen individuals representing publishers, vendors, researchers, and libraries worldwide. Collectively, the group worked to understand the current landscape, including the range of organizational activities and workflows; to articulate best practices, emphasizing a balance between flexibility and consistency; and to outline activities and responsibilities of all actors in the scholarly information ecosystem. The Draft Recommendations were first released for public comment in October 2023, and received over 120 comments from 35 organizations.

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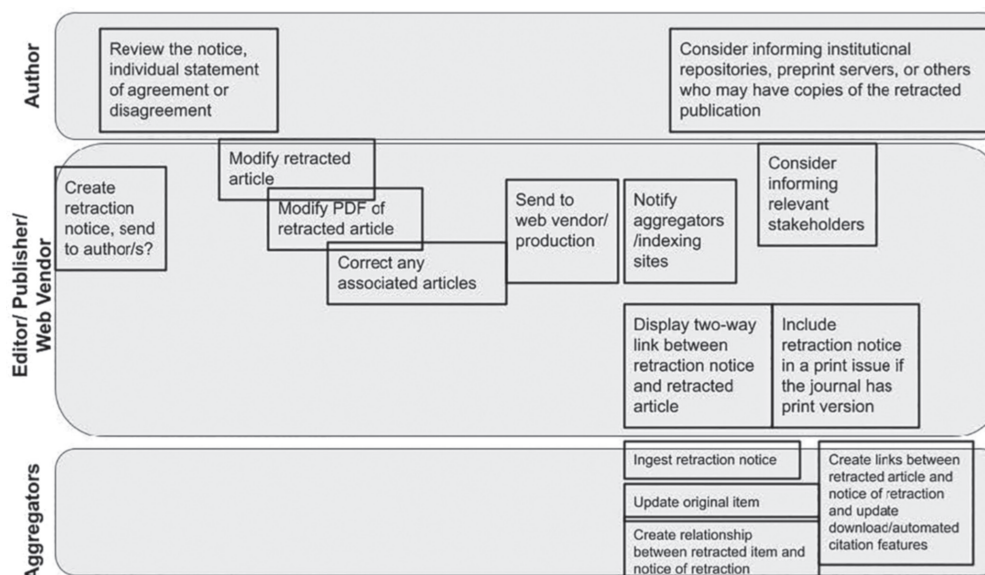


Figure. Retraction communication flowchart. Reprinted with permission from NISO RP-45-2024, Communication of Retractions, Removals, and Expressions of Concern (CREC). Copyright 2024, NISO.

On June 27, 2024, the culmination of these efforts was published in NISO RP-45-2024, the “Communication of Retractions, Removals, and Expressions of Concern (CREC) Recommended Practice.”¹⁵

The CREC Recommended Practice

The focus of the Recommended Practice is not the editorial decision making process underlying postpublication activities, but rather, the timely and transparent communication of those decisions. The 7 sections of the Recommended Practice cover a broad range of retraction-related metadata recommendations, including the creation, transfer, and display of metadata and the responsibilities of multiple actors in the system, as outlined in Responsible, Accountable, Consulted, and Informed (RACI) matrices.

The Recommended Practice outlines publisher responsibilities, including notifying aggregators and vendors and informing other relevant parties, such as preprint servers and repositories, and encourages the integrating of notifications into standard editorial and production workflows (Figure). Guidance is also provided to vendors and aggregators on metadata receipt and display to ensure visibility across platforms to both human and machine readers.

Specific recommendations include prepending “RETRACTED:” to the titles of retracted publications, prominently watermarking and labelling content in HTML and PDF format, and ensuring that retraction notices are distinct, easily accessible, and linked to appropriately labelled retracted content.

The Recommended Practice includes extensive guidance on metadata elements for retracted publications, retraction notices, expressions of concern, and removals. The various elements are classified as Essential, Essential if Available, and Recommended. The Recommended Practice does not establish a new metadata schema, but instead outlines how existing schema and elements can be used to effectively and consistently communicate retraction-related information. To help support implementation, examples of both Journal Article Tag Suite (JATS) and Crossref metadata for retracted publications and retraction notices are provided to illustrate how each element can be used.

The Recommended Practice also offers specific guidance on unique situations, such as items that are retracted prior to formal publication, retraction when the journal has been transferred to a different publisher, retraction in issue-based publishing, and retraction of multiple items as a result of a single investigation.

Next Steps and Future Work

Although the Recommended Practice has now been published, the work is ongoing. A standing committee will soon be formed, which will be tasked with monitoring ongoing developments, gathering and responding to community feedback, and expanding and refining the Recommended Practice in the future to ensure maximum applicability. Future work may include more substantial guidance on expressions of concern, standardized language around reasons for retraction, and opportunities of automated identification of retracted publications.

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Beyond the Article: How JAVMA and AJVR Promote Authors and Their Work

Sarah E Wright

This article covers how the editorial staff for 2 scientific journals promote their published articles on social media and beyond. Covered highlights include social media promotion, including Facebook, Instagram, X, and LinkedIn, as well as podcasts and press releases.

JAVMA and AJVR

The mission of the American Veterinary Medical Association® (AVMA) is to “lead the profession by advocating for our members, and advancing the science and practice of veterinary medicine to improve animal and human health.”

The AVMA has over 105,000 members and has 2 veterinary medical scientific publications. The *Journal of the American Veterinary Medical Association®* (JAVMA) is a hybrid, monthly, peer-reviewed journal. Manuscripts dealing with any subject germane to the practice of veterinary medicine are published in JAVMA. The journal is a member benefit that AVMA members receive in print, and it is also available online. The *American Journal of Veterinary Research®* (AJVR) is a gold open access, monthly, peer-reviewed journal. Reports of original research and review articles in the general area of veterinary medical research are published in AJVR.

In addition to traditional print and online publication of articles, social media can be a powerful platform for knowledge dissemination in scholarly publishing. An engaging presence on X (formerly Twitter) for scholarly journals has been linked to increased citations, which are important for a journal's impact.¹⁻⁶ Scholarly publishing teams have begun adding social media editors to promote their published articles, engage readers, and help boost

their impact factor.^{1,5} In February of 2022, the first Social Media Editor was hired for JAVMA and AJVR. To the AVMA editorial team's knowledge, JAVMA and AJVR are the only veterinary journals to have a dedicated Social Media Editor.

Article Promotion Methods

The Publications Division was able to create and implement its strategy through establishing this Social Media Editor position. The strategy included promoting authors' work through social media, the *Veterinary Vertex®* podcast, and press releases to increase the online attention and reach for JAVMA and AJVR. The editorial team began capturing and analyzing online attention metrics using Meta Business Suite for Facebook and Instagram, Hootsuite for X and LinkedIn, and Altmetric for Facebook, X, news, policies, patents, blogs, and Reddit. Through these efforts, JAVMA's online article attention has increased by over tenfold in less than 2 years.

Anatomy of a Social Media Post

The AVMA's Marketing and Communications (Marcom) team created a template used for social media posts. The template is distinct from the association's social media posts to convey editorial independence. The main emphasis of a post is the clinical relevance of an article (Figure 1). The LinkedIn posts appear very similar to the Facebook posts since both platforms have double the character limit

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Figure 1. Anatomy of a Facebook post.

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Figure 2. Anatomy of a LinkedIn post.

compared with X, which is limited to less than 280 characters. LinkedIn will make a custom shortened link based on the URL provided (Figure 2). With X, the biggest difference is the use of hashtags (Figure 3).

Instagram is unique in that users cannot click on active URLs. However, users can include up to 2 active URLs in the Instagram account's bio. The Publications Division uses a website called Linktree for the URL in JAVMA's and AJVR's Instagram bios. Linktree houses several URLs at one time, and the expiration date for each URL can be customized. The JAVMA and AJVR team opts to house each article's URL in Linktree for 48 hours before it expires to keep the content fresh and avoid clutter. Language such as "click on the link in our bio or type XYZ into your browser to read the article" (Figure 4) directs social media users to click the Linktree URL, which in turn leads them to the article.

Overcoming Social Media Changes and Challenges

The social media space is constantly changing. In addition to more public transfers of ownership and branding, more nuanced differences with algorithms are constantly taking place. The editorial staff of JAVMA and AJVR subscribe to *Social Media Today*,⁷ a free e-letter that covers high-level

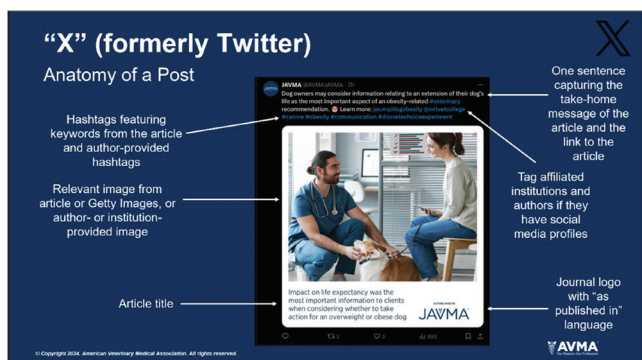


Figure 3. Anatomy of an X post.



Figure 4. Anatomy of an Instagram post.

and smaller changes on various social media platforms. Staying up to date with the latest social media trends can ensure that content stays contemporary and relatable to the target audience. The editorial team also follows competitor accounts for other journals in the veterinary space and has quarterly meetings with the AVMA social media team to stay apprised of what others are doing. The AVMA social media check-in meetings are especially helpful to plan cross-pollination of content, which can help visibility of the association.

Another challenge with managing social media accounts is that social never sleeps. Social media moderating is a 24/7/365 responsibility since users can comment and share content at all hours of the day. It can be nice to have social media moderating be a shared team activity to allow others time to "unplug." This becomes challenging for small teams but is important, nonetheless.

As a veterinary medical journal, JAVMA often has difficulties finding appropriate stock images that are royalty-free, medically accurate, and on-brand for the association. It is also important to consider that anyone in the public can see the images posted on social media and to avoid anything too "graphic" since users can flag the posts as inappropriate, or the social platforms may blur the images for sensitive content.

Veterinary Vertex® Podcast

The editorial team launched the podcast *Veterinary Vertex®* in 2022. Editor-in-Chief Dr Lisa Fortier identifies clinically relevant articles upon submission that may be a good fit for the podcast. The authors are then contacted after acceptance with an invitation to be on the podcast. AVMA's General Counsel copyrighted the name *Veterinary Vertex®* and generated new copyright forms for these episodes.

The podcast questions are scripted out, individualized for each article, and shared with the interviewees for their input prior to the episode being recorded. New 20- to 30-minute podcast episodes are published weekly.

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The podcast audio is edited using a free program called Audacity, and the edited audio is shared with the authors before being published online. Once the authors are happy with the audio, the podcast hosts share it with the author's associated institutions for further promotion.

The podcast is hosted on Buzzsprout, where it is then disseminated to major podcast directories, such as Apple Podcasts and Spotify. Buzzsprout has Cohost AI generate titles, summaries, transcripts, and chapters, thus saving time for staff. Buzzsprout also provides episode-download metrics, such as top episodes, top apps, and number of downloads, which is helpful when working with advertising agencies.

After a year of publication, the podcast gained its first sponsorship with assistance from our advertising partners. The sponsor prerecords the audio promoting their product, and the editorial staff reviews the audio for accuracy. The advertisement is then placed at the beginning of the episode. *Veterinary Vertex*® has 103 published episodes and over 31,700 downloads and counting. It also has a global listenership (Figure 5) and was ranked no. 2 of the top 100 best veterinary podcasts by FeedSpot in 2024. The team hopes to increase the podcast's reach in the future.

Press Releases

The AVMA's Marcom team generates press releases for manuscripts that may be relevant for the public. The Editor-in-Chief identifies manuscripts at submission that may be of potential general interest to the public, and the Marcom team reads the article for suitability from a general news perspective. If the manuscript is accepted, the Marcom team will write a press release for the article and send it to various news agencies, such as PR Wire, Eurekalert, etc. The editorial team also shares the Altmetric link to the article with the authors so they can track the online attention it receives.

Putting It Together for Article Promotion Success

The editorial team collaborates with the authors, the AVMA journals' production team, the Marcom team, and the authors' institutions to have press releases, social media posts, and podcast episodes publish synchronously. Less than 2 years after developing and implementing an article promotion strategy, the JAVMA team increased the journal's reach on Facebook by 1,000% (130,110 to 1,325,922 unique accounts), on Instagram by 8,679% (1,273 to 110,484 unique accounts), on X by 522% (110,000 to 684,362 unique accounts), and on LinkedIn by 11,563% (974 to 112,621 unique accounts). Social media content with the highest engagement included supplementary and technical tutorial

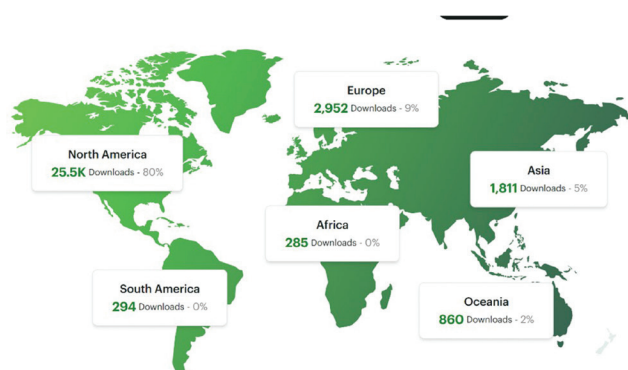


Figure 5. Map of *Veterinary Vertex*® podcast downloads as of July 2024.

videos posted as short reels, followed by case-based “What Is Your Diagnosis?” posts.

Social media, podcasts, and press releases have become dynamic tools in the AVMA's promotion of authors and their work while increasing reader engagement. For the journals, use of social media also aids in recruitment of authors and reviewers. Staying apprised of social media trends, new platforms, and the development of artificial intelligence allows the AVMA editorial team to maximize the dissemination of the latest advancements in veterinary medicine.

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2024 CSE Fall Virtual Symposium—Equity in Research Publication: Keeping Humans Front and Center

Jason Roberts and Chhavi Chauhan

The scholarly publishing industry has several ongoing burning conversations on the emergence and responsible use of artificial intelligence (AI), ensuring scientific integrity in evolving landscapes of increasing scientific misconduct, unclear new business models with few reported use cases to guide decision making, and most importantly, inclusive engagement. Undeniably, underpinning all such conversations are the themes of equity, inclusion, accessibility, and participation in the research, peer review, and publication processes for all. The 2024 CSE Virtual Fall Symposium will serve both as a primer on these topics and a forum for discussions surrounding recommended, as well as tested, practical steps and tangible implementation strategies to benefit various journals and societies, irrespective of the size, partnership models, and geographical locations. The attendees of this meeting—with clearly defined actionable items, focus on successful use cases, globally applicable recommendations, and facilitated discussions by industry experts—will certainly be empowered to steer their journals or organizations forward safely in these turbulent times.

The Virtual Symposium will focus on 4 key sessions, each featuring moderated panel discussions by global industry leaders and moderated by seasoned professionals, focusing beyond theory, on experience and practice, followed by an audience-led question and answer session. Each session will also have provision to share key insights, success (or failure) stories, resources, discuss potential next steps, and develop practical takeaways collaboratively. This symposium promises to strip back the complexity surrounding current

challenges that our industry faces, ensure a firm grounding, relate the conversation to journals of all types, and provide guidance to power an attendee's own policy development or have an informed conversation with editors, a society journal owner, or staff at a publishing house.

Critically, we look forward to impressing you with a diverse (in every sense of the word) cadre of speakers/panelists and academic voices in live discussions, blending some familiar names with global experts or practitioners who may be less familiar to CSE members and prospective meeting attendees. Leveraging the virtual nature of this symposium, we hope you enjoy the global flavors of insights as we tap into short, yet extremely powerful, video presentations blended in with the live discussions.

To serve the greater community, and to make this virtual experience better for all attendees, we encourage scholarly publishing professionals to proactively engage in discussion ahead of time, as well as help us collate resources via shared documents that would be released in September, prior to the actual symposium, for everyone's benefit.

The 4 main sessions at a glance are as follows:

- **Are Ethics Geographically Equitable? Maintaining the Sanctity of the Published Scholarly Record.** A globally dispersed eclectic panel of experts will discuss differences in how ethical issues are taught to researchers, variances in how ethics are perceived, how journals can better manage and communicate policies regarding ethical issues with authors from various geographies, as well as discuss potential struggles researchers may face to protect themselves, especially based on their location.
- **AI Apocalypse: From Doom to Boom (in Equity) for Researchers, Editorial Offices, Publishers, and Readers.** Societies and publishers are beginning to institute forward-looking internal and external policies. Tech-savvy researchers are adopting AI in innovative ways

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that push boundaries in both a positive and negative sense. How might editors and journal staff improve workflows for these new high stakes challenges in their own unique settings? Furthermore, might these AI tools lack sensitivity to the very issues of equity and inclusion scholarly publishing has so recently tried to correct? In the race toward AI, are we forgetting the human component, particularly when it comes to communication? Attendees, we hope, will use this session to explore their pain points and how AI might help overcome them equitably.

- **About Time We Diversify the Reviewer Pools: Current Scenarios and Practical Solutions from Stakeholders in the Value-Chain.** Diversifying the reviewer pool potentially solves concerns regarding finding reviewers, represents a step toward addressing issues of reviewer bias, and most certainly tackles issues surrounding a lack of inclusion. From an author perspective, perhaps diversifying reviewer pools potentially improves the quality of reviews received. This session will explore both evidence and practice to suggest several viable solutions.
- **Transformative Agreements: An Emerging Twist in the Battle for Equitable Access to Scholarly Content.** Transformative agreements represent an emerging business model that may shift how content is accessed

and where it is published, but will they create an equity divide for researchers as both readers and authors? What are the potential implications for society journals published under license with a publisher executing such agreements? What are the implications for self-published journals or journals at the multitude of smaller publishers without resources to offer such deals? If authors are increasingly seen as customers, do these deals represent a boon or, conversely, might such deals limit their options? This session aims to explore the underlying fine print in the “promise” of free publication for researchers, proposed incentives and support, perceived beneficiaries (and losers!), and shifting priorities for readers, journals, societies, and publishers alike.

We hope to make the 2024 CSE Fall Symposium *the* virtual event of the year, over and above the many online meetings and webinars you may have attended! With a commitment to ensuring attendees gain a firm understanding on each topic and tangible practical resources, we hope you will invest your time in supporting this year’s meeting.

2024 CSE Fall Symposium
November 19 and 20, 2024

Registration is now open: <https://www.councilscienceeditors.org/fall-virtual-symposium>



CSE Fall Virtual Symposium

The CSE Fall Virtual Symposium is a two-day event hosted annually by CSE for scholarly publishing professionals of all experience levels. These virtual gatherings offer the opportunity to hear from thought leaders about industry trends, network with colleagues, and spark inspiration that can inform the activities at your own organization.

The 2024 Fall Virtual Symposium will be held November 19 and 20. More information to come! For updates, visit <https://www.councilscienceeditors.org/fall-virtual-symposium>

The 2024 AAAS Annual Meeting: A Communication-Oriented Look Within Its Walls

Barbara Gastel

After moving online during the COVID-19 pandemic^{1,2} and later being attempted as a hybrid event,³ the annual meeting of the American Association for the Advancement of Science (AAAS) returned to fully in-person for 2024. Held February 15–17 in Denver, CO, the 2024 meeting bore the theme “Toward Science without Walls.” The current report shares some of the meeting content of potential interest to science editors and those in related realms.

Behind the Scenes at the *Science* Journals

Valda Vinson, executive editor for the *Science* journals, discussed the selection and publication processes at *Science* and other journals published by AAAS, summarized below (Figure).

Journals now inhabit an ecosystem that includes social media, preprints, and news. Editors consider how journals fit in; thinking about audiences is key. Research becomes accessible to progressively broader audiences as its communication progresses through various stages: preprint, journal submission, peer review, editing, and dissemination to and through the press. During this process, editors select, enrich, and share.

Science receives about 11,000 papers per year, of which it publishes about 750. A paper in *Science* generally must do 1 or more of the following: significantly advance scientific understanding, present important new data, have societal impact, or be of broad interest. The papers should be important to share with a wide audience and must be of high technical quality. Items that help make a paper suitable include convincing data, appropriate controls, and careful presentation. Items that can hurt include excessive



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speculation, which can undermine work, and insufficient support for the most exciting conclusions.

What happens when a paper arrives at *Science*? First, members of the board of reviewing editors and journal staff review it. This process takes 1–2 weeks. About 75% of papers are rejected at that point, often because the research seems more suited for a specialized journal. The remaining papers proceed to in-depth review by at least 2 reviewers. The reviewers should be experts in the research methods and experimental system used and should not be direct competitors of the authors; diversity in reviewers is sought. Once the reviews arrive, each reviewer receives anonymous copies of the other reviews; this cross-review seems to have decreased the number of nasty reviews. Reviewers can respond to other reviews if they wish; they have 48 hours in which they can do so.

Science strives to promote reproducibility of research it publishes. Editors' involvement in doing so includes using a checklist of criteria in this regard and doing technical editing. Papers also are checked for image manipulation; the errors found tend to be careless ones, such as problems in labeling, that may be avoided by sound data management. All data must be available at publication time, and authors must ensure that all reasonable requests for materials will be fulfilled.

“We edit your paper to make it more understandable to a broader readership,” Vinson said. Other individuals, such as those in the press office, help make the content accessible

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Figure. Valda Vinson, Executive Editor for the *Science* journals.

beyond the scientific community. Publication, Vinson emphasized, is “an important and integral part of doing the science” and is vital to AAAS’s mission of furthering science-informed decision-making.

Beyond Academic Walls: Providing and Pursuing Successful Internships

Barbara Gastel, of Texas A&M University, presented a workshop intended to aid current and prospective internship hosts and interns. The content can apply to various internships, including those in communicating science. Main points are summarized below.

Benefits for interns can include chances to reinforce and extend knowledge and skills, explore career options, network, obtain professional references, and build portfolios. For hosts, benefits can include obtaining help with tasks, gaining exposure to new ideas and resources, and evaluating prospective employees or freelancers, as well as contributing to the profession. Also, internships can increase visibility of host institutions and interns’ institutions, and communications by interns can inform fellow students and help faculty stay current.

Prospective interns can seek internships through postings, databases, events such as internship fairs, and networking. In addition, ad hoc internships sometimes are established. Similarly, prospective hosts can seek interns through postings, internship fairs and such, and networking, including with educational programs that may provide interns. Before searching, interns and hosts should consider their respective goals, qualifications, assets, and constraints.

To begin well, the intern should research the internship site, expect less structure and more ambiguity than in classwork, be flexible, be willing to ask questions, and observe the site’s culture. The host should make (or delegate) logistical arrangements, provide a tour (literally or figuratively), find

out the intern’s priorities, clarify expectations, and introduce the intern to others.

During the internship, interns should show initiative, seek and apply feedback, learn from various people, keep a journal, and keep copies of work. Hosts should meet regularly with the intern; remember to provide feedback, including encouragement; try to gear some work to the intern’s particular interests; involve the intern in a range of activities; provide increasing responsibility; and, if feasible, include some “goodies” (such as participation in site social events).

At the end of the internship and beyond: Interns should reflect on and share their experience; thank the host and others; and, if appropriate, stay in touch. Hosts should bring the internship to closure; if warranted, offer to serve as a reference; perhaps stay in touch; and reflect on the experience and proceed accordingly.

Tips for remote internships include the following: ENSURE sufficient structure, including frequent regularly scheduled meetings of intern and host; involve other team members; use means of continual contact, such as messaging apps; model best practices for remote work; and if feasible, include an in-person component, such as a visit to the internship site.

Nonpartisan Science Communication in a Polarized World

Shenandoah Sowash and Mark Kuykendall, both of the U.S. Government Accountability Office, presented an interactive workshop on communicating with general audiences about polarizing topics.

In opening, Sowash elicited an example of a conversation that was with a nonscientist and turned partisan. She noted that touting one’s scientific expertise tends not to be persuasive in such situations.

Communication, the speakers noted, is rooted in 3 items: the goal, the audience, and the message. Merely raising awareness, they said, is not a strategic goal. They recommended asking oneself, “What do I want my audience to do, and how can I get them there?” They said the goal should be “measurable, specific, and reasonable.”

The speakers emphasized identifying the specific audience to reach. “The whole world is *not* your audience,” they said, adding that “audiences don’t need to be big to be powerful.” They recommended targeting decision makers. They also discussed creating a persona (a composite of members of the intended audience) to envision when planning communications.

The speakers recommended considering from the audience’s standpoint why it should care. They encapsulated this perspective as WIIFM (“What’s In It For Me?”). For identifying WIIFMs, they recommended considering the

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audience's unique characteristics, its goals and aspirations, and its needs and challenges.

The goals and audience should then be considered in determining the message's content and means of delivery. "You will not win people over with facts alone," the speakers stressed.

The workshop proceeded to an exercise where each attendee was to designate an audience in their field, identify 3 WIIFMs of the audience, and indicate a desired action for audience members to take. These items were then discussed in small groups. The workshop ended with a full-group discussion.

Communicating Community Risk and the Critical Role of Statistical Science

Katherine B. Ensor, statistics professor at Rice University, discussed initiatives to communicate statistical findings to local governments to promote public wellbeing. She focused on work she has done in Houston, TX.

Elevated atmospheric ozone levels substantially increase the likelihood of asthma attacks. Ensor described an effort, now underway for about a decade, to alert those in Houston when such atmospheric conditions are expected. This effort includes sending "asthma aware day messages" to relevant groups and individuals in the community.

Ensor also discussed monitoring the amount of the SARS-CoV-2 in Houston wastewater to help track the amount of COVID-19 in the community. City officials receive a "carefully curated" weekly email message in this regard, plus requested types of visuals. In addition, a dashboard on the topic is publicly available.

Using the asthma and COVID efforts as examples, Ensor noted the "importance of permanence" in such researcher-government partnerships to "bring actionable science to the community." She also mentioned that the American Statistical Association is striving to promote public literacy in data science.

In closing, Ensor touched on measuring the impact of efforts such as hers. The measures, she stated, could include the ease with which the recipients of information can make scientifically informed decisions. They also, she said, could include community knowledge, actions taken, and outcomes.

On Giving Inclusive Presentations

Before the AAAS meeting, the organizers sent speakers a handout, based in part on material from the American Anthropological Association, on giving presentations that attendees with visual, auditory, or other limitations can readily follow. Some highlights applicable to conferences such as the Council of Science Editors annual meeting are the following.

In introducing a session, the moderator should state the title, date, and time of the session and say whether an American Sign Language (ASL) interpreter is present. Speakers introducing themselves should state their names, the titles of their presentations, and whether copies of their presentation and any supplementary information are available. It also was recommended that moderators briefly describe the room and that speakers state their preferred pronouns and describe their appearance.

For PowerPoint presentations: Use a solid background for slides, and provide high contrast between text and background (for example, black text on a light background, or white text on a dark background). Choose a sans serif typeface (such as Arial, Calibri, Helvetica, or Verdana). Ensure that all type is at least 18 points. Limit each bullet point to 1 line, and do not exceed 5 bullet points per slide. Describe visual representations (such as images, graphs, and maps). Run the "Check Accessibility" tool in PowerPoint.

When people ask questions, have them identify themselves by name. Likewise, have those answering questions identify themselves. Repeat each question into the microphone before answering it.

The handout also had sections on what to do if an ASL interpreter is present, what to do when presenting a video, and how to create digital access copies. Such copies can help people follow a presentation if they have visual or auditory disabilities or tend to lose focus.

And More

Also at the AAAS annual meeting, Monica Bertagnolli, who had recently become director of the U.S. National Institutes of Health, gave a talk titled "Fostering Learning-Based Linkages between Lab, Clinic, and Community." In the question-and-answer period, she stated that "communication is one of our biggest objectives" and especially called for promoting open data sharing. She said she would like publications to have a new designation that says, "This publication resulted from a data-sharing environment."

The 2025 AAAS annual meeting, themed "Science Shaping Tomorrow," will be held February 13–15 in Boston, MA. Information is available at <https://meetings.aaas.org>.

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Open Scholarship and Bibliodiversity

Tony Alves

"Bibliodiversity," as it pertains to open scholarship, refers to the diversity of publishing models, platforms, and formats available for scholarly communication. It emphasizes the importance of a varied and inclusive ecosystem for acquiring academic knowledge and disseminating research. An important part of bibliodiversity is the inclusion and promotion of diverse scholarly voices. In February, I moderated a session at the NISO Plus¹ conference, entitled "Open Scholarship and Bibliodiversity," that included researchers and scholarly communication professionals from diverse backgrounds who represent varied open scholarship initiatives. Each of the panelists were asked to consider these key principles as they prepared their talks:

1. Access to Diverse Perspectives
2. Inclusivity and Equity
3. Reducing Publishing Bias
4. Encouraging Innovations
5. Global Collaboration

Although each presentation contained elements of each principle, I have related in this report each presentation to the principle that it most represented.

1. Access to Diverse Perspectives

Bibliodiversity, which encompasses a diverse range of publishing models and platforms, allows for a broader representation of scholarly voices. Different publishing options, including open access journals, institutional repositories, and alternative publishing platforms, can cater to a variety of perspectives, research topics, and methodologies.

Maureen P Walsh, Scholarly Sharing Strategist and Associate Professor at The Ohio State University,² presented, "Investments in Open Scholarship Toward Bibliodiversity: The Role of a

Large North American Research Library." Her talk focused on transforming the scholarly publishing economy, particularly within a large North American research library, aiming to promote bibliodiversity through investments in open scholarship. Walsh emphasized that the initiative, ongoing since April 2019, represents a strategic approach and is guided by values and principles, such as open access publishing agreements, consortia partnerships, open scholarly infrastructure, authors' rights, open access monographs, engagement with campus partners, and support for diamond open access.

Walsh highlighted 1 significant aspect of the initiative, which involves investments in open scholarship and encompasses various models, platforms, and formats. For instance, the "Read and Publish" or "Pure Publish" model, implemented from July 8, 2020, to February 9, 2024, resulted in the publication of 1,471 articles as open access, with \$4,604,805 in article processing charges (APCs) waived. She noted that the investments target scholarly societies, nonprofit organizations, university presses, and commercial publishers, and support their transition toward open access publishing. Examples of supported entities include the Biochemical Society, Cambridge University Press, PLOS, and Springer.

This initiative, as discussed by Walsh, highlights investments made by university libraries in diamond open access, subscribe-to-open models, open monographs, and open infrastructure, demonstrating a commitment to promoting diverse scholarly outputs and supporting campus researchers. It represents a balancing act between fostering bibliodiversity—ensuring a diverse range of scholarly works—and supporting the needs and goals of the academic community.

The support provided through this initiative extends beyond financial investments and aims to have a tangible impact on the direction and scale of open scholarship. Walsh sees that by collaborating with various stakeholders and investing strategically in open access initiatives, the large North American research library can contribute to the advancement of scholarly communication while ensuring equitable access to knowledge resources for researchers and scholars.

2. Inclusivity and Equity

A diverse scholarly ecosystem promotes inclusivity and equity by providing opportunities for researchers from different backgrounds, disciplines, and regions to share

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their work. Open scholarship aims to break down barriers to information access, and a diverse bibliodiversity contributes to this goal by offering a platform for a wide array of voices.

Two presentations fall under this category. First, Nataliia Kaliuzhna, Research Associate at TIB – Leibniz Information Centre for Science and Technology,³ and PhD student at Kyiv National University of Culture and Arts,⁴ presented “Identification of Hurdles to Open Access Publishing for Researchers with Weak Institutional Ties—Epistemic Injustice in Scientific Publishing.” She provided an overview about the newly launched IDAHO project⁵ that aims to identify and describe the obstacles and their underlying mechanisms that researchers with weak institutional ties face in the realm of open access publishing. It underscores the necessity of ensuring that diverse ranges of voices from various backgrounds have an equitable opportunity to engage in research, knowledge creation, and dissemination. The project spans from October 2023 to August 2025 and employs a multipart exploratory mixed-method approach.

Kaliuzhna explained that the initial phase, a comprehensive literature review, has been conducted, revealing a range of obstacles authors encounter when attempting to publish open access. This stage of the study aims to inform the data collection approach for the subsequent empirical phase. These include independent researchers, those without affiliations, transient academics, retired researchers, refugee scientists, nongovernmental organization researchers, and individuals from the Citizen Science domain. As Kaliuzhna points out, the study aims to shed light on the specific obstacles faced by these diverse groups, particularly due to their lack of sufficient institutional support (APC funding).

Currently, the project is progressing to its second phase, which involves qualitative interviews with both researchers and publishers, alongside quantitative surveys targeting researchers. Kaliuzhna says that this phase seeks to deepen the understanding gained from the literature review by directly engaging with stakeholders. Subsequently, in the third phase, a workshop with publishers will be organized to distill findings into actionable recommendations for improving access to open publishing for researchers with weak institutional ties.

By addressing these barriers and proposing practical measures to overcome or mitigate them, the study endeavors to promote inclusivity and equity in scientific publishing, ensuring that valuable contributions from researchers across various backgrounds are not marginalized due to institutional affiliations, or lack thereof.

Michael Chimalizeni, Metadata Specialist and Consultant located in Zimbabwe, presented “Bibliodiversity—Local Action to Stay on the Cutting Edge.” Chimalizeni emphasized the critical importance of assistive technology, citing a 2017 study in the *Lancet*⁶ that showed 90% of

visually impaired individuals reside in developing countries and face significant barriers to education and employment opportunities. There is a need for local libraries to balance technological advancements with ensuring accessibility to content, especially for marginalized communities. To address this disparity, Chimalizeni outlined a series of proactive measures to promote and advocate for assistive technology within local library services.

One significant initiative is the organization of webinars aimed at library directors to raise awareness about the importance of accessibility and assistive technology in library services. The webinars highlight specific case studies demonstrating the transformative impact of implementing assistive technology in libraries, such as how the adoption of screen reader software improved accessibility for visually impaired patrons in a particular library. Also explored were strategies to enhance accessibility within limited budgets, such as advocating for increased funding allocations for assistive technology, seeking grants specifically earmarked for accessibility initiatives, or exploring partnerships with local organizations or businesses willing to sponsor accessibility upgrades in libraries.

Chimalizeni discussed the establishment of a community of practice group on WhatsApp, a space for library professionals to collaborate, share insights, and brainstorm innovative approaches to enhancing accessibility in library services. Members of this group can exchange best practices on creating accessible digital resources and discuss implementing inclusive design principles in library programming.

Partnering with publishers to improve the accessibility of their content, libraries and the publishing industry can also create a more open and inclusive information ecosystem. Publishers are encouraged to undergo training facilitated by the Accessible Books Consortium (ABC).⁷ This training equips publishers with the knowledge and skills to produce content that meets accessibility standards, such as providing alternative text for images, ensuring compatibility with screen readers, and implementing navigational aids for individuals with motor impairments.

3. Reducing Publishing Bias

Traditional publishing models may have biases that favor certain topics, methodologies, or regions. Bibliodiversity, especially within open access initiatives, can help counteract these biases by creating space for underrepresented voices. This is crucial for fostering a more comprehensive understanding of various subjects and addressing gaps in knowledge.

Katherine Witzig, a Library Administrative Assistant at Oklahoma City University presented, “Respectful Partnership for More Inclusive Practices.” As a member of the Choctaw Nation of Oklahoma⁸ and the 2SLGBTQ+ and disability

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communities, Witzig brings a unique perspective to her work. With a diverse educational background, including Bachelor of Arts degrees in English and Spanish, and currently pursuing a Master's in Library and Information Science degree at the University of Illinois Urbana-Champaign, Witzig's professional journey is characterized by a dedication to fostering respectful partnerships and counteracting bias in research.

As Chair of the Committee for Tribal Libraries, Archives, and Museums within the Oklahoma Library Association,⁹ Witzig discussed initiatives aimed at supporting tribal librarians and improving access to resources for Indigenous populations. One such initiative is the establishment of web-accessible resource lists tailored to the unique needs of tribal libraries, archives, and museums, ensuring these institutions have access to the tools and support required to serve their communities. Fostering collaboration and knowledge sharing among tribal librarians empowers them to address the specific challenges they face, and advocate for the preservation and promotion of Indigenous knowledge and cultural heritage.

As Co-chair of the Program for Cooperative Cataloging's Task Group for Metadata Related to Indigenous Peoples of North America,¹⁰ Witzig advocates for reparative and inclusive metadata practices throughout the library and information science community. Recommendations are in development to update Library of Congress classifications and subject headings so that they accurately reflect Indigenous perspectives and identities. Relatedly, Witzig served as an advisory board member for the "Creating Subject Headings for Indigenous Topics: A Culturally Respectful Guide,"¹¹ which informs library professionals on best practices for incorporating Indigenous perspectives into cataloging. These metadata standards and practices reduce bias by challenging colonial legacies that are embedded in cataloging systems, and they promote greater visibility and recognition of Indigenous peoples and cultures in library collections.

In her research and presentations, Witzig continues to advocate for respectful and culturally sensitive approaches to information management. Presentations at events like the Eastern Oklahoma Library System and University of Illinois Urbana-Champaign Student Showcases underscore her commitment to fostering cultural connections and incorporating Indigeneity into library and information science practices, creating a more inclusive and representative environment that honors the diverse perspectives and experiences of Indigenous communities and other marginalized groups.

4. Encouraging Innovations

A diverse scholarly publishing landscape encourages innovation in communication and dissemination of research. New and alternative publishing models can emerge, providing researchers with creative ways to share their findings. This

innovation contributes to a dynamic scholarly environment that adapts to the evolving needs of the research community.

Dr Nokuthula Mchunu, Deputy Director at the African Open Science Platform,¹² presented "Towards a Continental Open Science Vision: Making African Research Discoverable." Her talk focused on making African research more discoverable. The African Open Science Platform encompasses various components aimed at advancing open science across the continent, including open science resources, outreach and engagement activities, education and capacity development initiatives, and data-intensive science outcomes.

One of the key challenges addressed by the platform is the limited visibility of African scholarly output, which is attributed to language barriers, underrepresentation in international research networks, and restricted access to research funding. To tackle these challenges, the platform emphasizes the importance of convening and coordinating the interests, ideas, people, institutions, and resources for open science both within and for Africa.

To enhance the discoverability of African research, the platform is actively encouraging the adoption of persistent identifiers (PIDs) and fostering the best possible discoverability and indexing in open scholarly databases. This effort is exemplified by platforms like africarxiv.org,¹³ which serves as a preprint repository specifically for African research, promoting visibility and accessibility of scholarly outputs from the continent.

The African Open Science Platform-Nodes serve as crucial hubs for fostering collaboration and advancing open science initiatives across the continent. These nodes are strategically located in various regions of Africa, encompassing countries such as South Africa, Nigeria, Kenya, Ghana, and others. Each node operates under the umbrella of the African Open Science Platform, working to encourage the adoption of PIDs and promote the discoverability of African research in open scholarly databases. Additionally, these nodes play a vital role in facilitating engagement with local communities, universities, research institutions, and policymakers to address challenges related to language barriers, limited digital visibility, and access to research funding. Through their concerted efforts, the African Open Science Platform-Nodes contribute to building a more robust and inclusive research ecosystem across the African continent.

Moreover, the African Open Science Platform is investing in essential infrastructure, such as cloud computing and data management tools, to support data-intensive research projects. Additionally, initiatives like the Data Science & AI Institute demonstrate the platform's commitment to providing cutting-edge support for researchers across Africa.

Expanding on these efforts, the platform is engaged in global challenge projects and aims to address the unique

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needs and opportunities present in African research landscapes. By tackling challenges related to visibility, language, and access to resources, the African Open Science Platform strives to foster a more inclusive and impactful research environment on the continent, ultimately contributing to the advancement of science and innovation worldwide.

5. Global Collaboration

Bibliodiversity, combined with open access principles, facilitates global collaboration. Researchers from different parts of the world can access each other's work more easily, leading to increased collaboration and the exchange of ideas. This international collaboration enriches the scholarly discourse and helps build a more interconnected global research community.

Mohamad Mostafa, Regional Engagement Specialist, Middle East and Asia, at DataCite,¹⁴ presented “Advancing Equity and Accessibility through DataCite’s Global Access Program.” DataCite, is a global community committed to making research outputs openly available and connected so their reuse can advance knowledge across and between disciplines, from samples and images to data and preprints. DataCite enables the creation and management of PIDs, they integrate services to improve research workflows, and they facilitate the discovery and reuse of research outputs and resources.

DataCite launched the Global Access Program (GAP)¹⁵ in February 2023. The program seeks to improve equity and access to PIDs infrastructure in underrepresented regions such as Africa, Asia, the Middle East, and Latin America through a comprehensive approach encompassing outreach, technical infrastructure development, and funding opportunities.

Mostafa discussed how GAP has made significant strides in increasing awareness through various outreach activities, such as regional webinars delivered in multiple languages, and how the launch of the DataCite Ambassador Program¹⁶ has established collaborations with local communities, and provided case studies¹⁷ demonstrating the practical applications of DataCite. Ambassadors from diverse regions such as Ecuador, Indonesia, India, Brazil, Ethiopia, and Saudi Arabia play a crucial role in promoting DataCite’s mission within their communities.

Additionally, GAP has focused on analyzing and enhancing technical infrastructure in target regions, including Africa, Asia, the Middle East, and Latin America. Mostafa noted that by examining the repository landscape and identifying opportunities for improvement, the program aims to support the development of robust infrastructure that facilitates the discoverability and accessibility of research outputs. Furthermore, DataCite’s Global Access Fund (GAF)¹⁸ provides funding opportunities for organizations

in the regions to support outreach activities, infrastructure development, and demonstrator projects. Mostafa was happy to announce that the first round of the GAF had been successful, with more than 185 applications received and 12 awardees announced¹⁹ in the first cohort.

GAP is increasing global PID adoption, which Mostafa attributes to the program’s commitment to fostering an equitable and inclusive research ecosystem, where researchers and communities worldwide have the necessary tools and resources to share their work effectively. As the GAP continues to make strides toward its goals, its call for support²⁰ remains open, inviting organizations and individuals to contribute to the advancement of global research accessibility and equity.

Promoting bibliodiversity is seen as a way to increase access to knowledge, reduce barriers to information, and foster a more collaborative and open scholarly community. The NISO Plus session on Open Scholarship and Bibliodiversity, provided an outlet for recognition and promotion of these 6 important initiatives. Although I’ve categorized each under a single heading, all of the panelists internalized and then reflected all 5 key principles in their presentations, illustrating that a diverse publishing landscape facilitates the inclusion of a wide range of perspectives and voices. Together, these voices contribute to a robust, equitable, and collaborative scholarly ecosystem.

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Correcting the Literature and Reducing Litigation Risk

MODERATOR:

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The National Academies of
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SPEAKERS:

Debra Parrish

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When taking action to address research misconduct (e.g., publishing expressions of concerns, retracting published papers), journals may find themselves the target of litigation. In this CSE 2024 Annual Meeting session, Debra Parrish of Parrish Law Offices shared examples of legal threats and theories that can be used against a journal and provided tips journals can take to reduce their vulnerability to litigation.

Common Litigation Theories

When initiating litigation, a respondent will apply 1 or several “theories” to their claim against the journal. These theories are typically first communicated by letter to the journal. In this legal threat, the respondent’s attorney lays out the reasons why the journal is incorrect in their actions (theory), explains how the respondent is being wronged or was never in the wrong, calls for action by the journal, and threatens further actions if the journal does not comply. These theories include:

- Defamation
- Intentional infliction of emotional distress
- Tortious interference with prospective economic advantage/business relationships
- False light/invasion of privacy
- Fraud and conspiracy to defraud (for publishing a plagiarized article)
- Coercion, fraud, and conspiracy to defraud (for not correcting)
- Dereliction of duty/negligence
- Lanham Act violation
- Sherman Act violation
- Breach of contract

The Figure lists cases where these theories were used in claims against the journals that addressed instances of research misconduct.

In *Saad v. ADA*, Mario Saad sued the American Diabetes Association for defamation and damage to his reputation. As publisher of *Diabetes*, the ADA had published an expression of concern (EoC) over 4 of Saad’s papers. In the EoC, the ADA outlined only the facts and made no claim that the data used in Saad’s research was not reliable. The EoC served only to alert readers to their concerns about the data’s reliability and noted that the investigation was ongoing. Because the EoC relied only on proven facts and statements, the court found that the ADA’s statement was not actionable for defamation and was “measured and professional in its tenor.”¹ The lawsuit was dismissed.

In *Harris v. AAA*,² the plaintiff, David Harris, brought a claim for unfair competition against the American Accounting Association and other defendants (authors) using the theory of tortious interference with prospective economic advantage/business relationship. Harris claimed that several other authors had published his research as theirs and that the publication had caused financial and professional injuries to him by destroying the value of his original paper, preventing him from publishing his paper in any other journal, and causing a loss of increase in his salary. A prime example of the endurance of these cases, this case went as far as the Supreme Court of New York before eventually being dismissed.

Finally, in *Reddy v. JBC*, Parish shared how journals need to be aware of the varying quality of institutional investigations and the financial implications of litigation. The plaintiffs,

Saad vs ADA

Andela v. AACR

Hall vs AAA

Tang v. Journal of

Clinical Nutrition

Harris vs. AAA

Joseph v. Springer

Nature

Reddy v. JBC

Sewell v. Elsevier

Singh v. PLOS



Figure. Cases against journals: Correcting the literature and reducing litigation risk (from Debra Parrish’s CSE 2024 Annual Meeting presentation).

<https://doi.org/10.36591/SE-4703-05>

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Raju Reddy and Aravind Reddy Targu, sued the *Journal of Biological Chemistry* and its publisher, the American Society of Biochemistry and Molecular Biology, for defamation.³ An allegation of figure reuse was made, and 2 institutions conducted separate investigations. Although 1 institution determined that no misconduct occurred, the other institution found evidence of misconduct. Given the different outcomes, JBC conducted their own investigation of the figures and concluded that they had been reused and thus retracted the paper. The authors brought litigation. The courts concluded that they could not order the retraction of a retraction. The publisher stipulated settlement with the authors, which left the retraction in place. In some instances, the steep cost and protracted process for litigation may mean that it makes more sense to negotiate a settlement acceptable to both parties.

How Journals Can Protect Themselves

Journals can protect themselves from allegations by providing clearly published policies and procedures regarding research misconduct. Their policies should note whether authors are required to cooperate in an investigation and whether they must notify the journal in the event of an institutional research misconduct investigation. Journals should also define "research misconduct." Although the U.S. Office of Research Integrity defines research misconduct as "fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results,"⁴ definitions at many institutions and countries also contain an "other practices" clause, which can include anything from animal care violations to sexual misconduct violations. Journal policies should also detail how long the publishers or authors are required to retain original data in case it is needed for an investigation and indicate whether specific guidelines are followed (the Committee on Publication Ethics [COPE],

for example). Finally, journals should indicate who is allowed to correct, retract, or withdraw a published paper. This could include the institution, journal/publisher, or the authors (first/last corresponding/any author/majority). Allowing the journal or publisher to retract is important in the case where no author will respond to communications from the journal.

If allegations of research misconduct are made, it's important to remember that the assessment process will take time. Not all institutional investigations are equal. Thus, the outcome of these investigations should be a factor in the publisher's decision, but not dispositive. Journals should first give authors a chance to withdraw their article because an author who agrees to withdraw has diminished ability to sue the journal, while still accomplishing the end goal of removing faulty information from the literature. When a correction or retraction occurs, journals should take a neutral tone (e.g., "the authors agree there was an error in X and have agreed to retract...") and only state facts. For example, a statement could say that there is "significant text overlap" rather than saying "plagiarism." Or the statement could note that the university found research misconduct, rather than saying that the journal determined research misconduct occurred. Finally, in all cases in the case of a legal challenge, the publisher should check their insurance carefully. Their policy may contain stipulations about which counsel can be used and if there are discounted rates available.

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An Industry-Wide Effort to Ensure Research Integrity

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Tony Alves, Senior Vice President at HighWire Press, and Treasurer of CSE, moderated a session at the 2024 CSE Annual Meeting focused on the STM Integrity Hub.¹ The STM Integrity Hub is a relatively new initiative developed by STM, the International Association of Scientific, Technical, and Medical Publishers. The invited speakers included Renee Hoch, currently the Managing Editor leading the PLOS Publication Ethics team at PLOS,² and Heather Staines, Director of Community Engagement and a Senior Consultant at DeltaThink.³

The session began with Staines's account of the earliest research, conversations, and plans that took place, mainly in member discussions called "Futurelab," that would set the stage for the eventual development of the STM Integrity Hub. This collaborative effort was to be an industry-wide effort to tackle the burgeoning stressors faced by all stakeholders in the worldwide scientific publishing endeavor.

STM Trends

Each year, the founding members of 2 of STM's earlier initiatives, SeamlessAccess⁴ and GetFTR,⁵ which stemmed from an initiative called the Resource Access in the 21st Century (RA21) Project⁶ that concluded with a NISO recommendation in 2019, meet to collate and articulate the factors that most stress the scientific publishing industry. Each spring, the group releases their findings as infographics called "STM Trends"⁷ that highlight predictions for the industry over the upcoming 3–5 years. Staines discussed the STM Trends for 2024 through 2027, and she highlighted common themes among these: paper mills and general trust in published research.

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The STM Trends for 2028 were recently released (see Figure). Staines explained that this newest prediction envisions a workforce where researchers, authors, publishers, and artificial intelligence (AI) tools can coexist and work in harmony. The STM Trends for 2028 also highlights the need to maintain appropriate human involvement to assure integrity and trustworthiness of AI machine-derived content.

STM Integrity Hub

Close examination of the common themes among the Trends led to the resolve to establish an industry-wide effort to protect the scientific record, current and future, from "bad actors" who might infest the literature with fraudulent and unreliable data. Thus, the STM Integrity Hub was born with the mission to "equip the scholarly communication community with the data, intelligence, and technology to protect research integrity."⁸ Alves reviewed how the STM Integrity Hub is organized as a team under a Governance Board, chaired by Chris Graf, 4 working groups (Expert Group, User Group, Image Alteration & Duplication, and a Watch List), and 3 task forces that respectively focus on legal aspects, communication, and cybersecurity.

As a member of 1 of the original task forces, Alves led the effort to evaluate the occurrence of simultaneous submission of manuscripts to 2 or more journals, which can be a signal of paper mill activity. The initial estimate was that as much as 4% of all submissions are duplicate submissions, and, as submission to multiple journals is not the norm among scientific researchers and peer reviewed science journals, this suggested the need to inspect this signal more closely.

To help the STM Integrity Hub continue developing manuscript evaluation tools, the initial participating publishers gave the team access to proprietary publisher content. These data were used to test different article and data evaluation and reporting systems, and they allowed for the development of policies on the ethical, legal, and efficient use of pooled data to notify publishers and researchers, when needed, about investigations of the Hub.

At least 15 volunteer publishers have since piloted the Integrity Hub's Paper Mill Checker Tool and Duplicate Submission Checker Tool. The Paper Mill Checker Tool packages multiple tools aimed at detecting signals of fraudulent submissions, and takes input from sources such as PubPeer,⁹ Clear Skies,¹⁰ and Retraction Watch.¹¹ This initial pilot screened approximately 20,000 manuscripts per month. As these tools are honed, more signals of potential

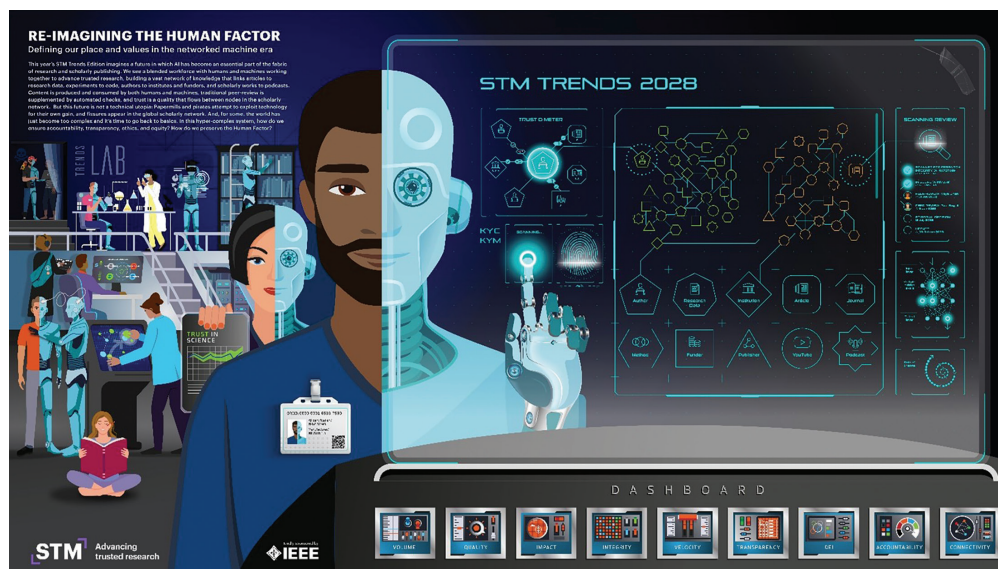


Figure. Re-imagining the human factor. The STM Trends for 2028 were published in the spring of 2024, predicting that AI tools would become an integral part of the scientific publishing industry and will likely lead to exploitation by paper mills and other fraudsters.

paper mill activity will be added, and all tools will be incorporated into an Ambient Screening tool that will allow publishers to select which tools they would wish to deploy. Additional future objectives include bringing on additional volunteer publishing partners, integrating these tools with commonly used submission platforms, and addressing the occurrence of false positives.

User Perspective

Renee Hoch spoke on behalf of PLOS to describe the experience of a volunteer publisher that has been involved in testing the tools of the STM Integrity Hub. Hoch explained that PLOS decided to become involved in the industry-wide movement to battle issues related to paper mills and fraudulent submissions. "If we continue to take siloed approaches, we are really limiting ourselves." In isolation, an article generated by a paper mill is too difficult to detect. "[All publishers] are battling some of the same problems; let's do this together."

One journal of the PLOS portfolio, *PLOS One*, began piloting the STM Integrity Hub Duplicate Submission Checker tool in December 2023, and all other PLOS journals were added in March 2024. The tool notified PLOS of 209 duplicate submissions involving 22 journals over a 4.5-month period. These flagged submissions were investigated by PLOS staff, false positives were removed from consideration, and the result was 150 desk rejections, none of which were successfully appealed. PLOS also piloted the Paper Mill Checker Tool: of the PLOS submissions for which this tool flagged issues, 75% were rejected prepublication, 4% were ultimately published, and 20% are still being monitored.

Takeaways

Several attendees asked about the signals identified by the STM Integrity Hub as indicators of potential paper mill activity. In response, the panelists emphasized that these details will be kept confidential, from both users of the tools and from authors, to help protect the tools from actors that would aim to evade them.

In response to questions from the audience about the economic sustainability of a multi-publisher collaboration, Alves mentioned that an economic model is being developed. Alves emphasized that the prediction is that using the packaged tools of the STM Integrity Hub (i.e., bringing multiple vendors under one roof) would make the program more economically feasible and equitable.

Finally, several members of the audience wondered what would or could be done with the potentially large volume of information that could be generated by the STM Integrity Hub tools. They expressed that costs may be prohibitive for smaller publishers and journals, and that some may find it difficult to staff papermill checks and follow-up investigations. Hoch emphasized the value of the investment in the STM Integrity Hub, asking "If we're not dealing with these issues prepublication, then what is the cost later on?"

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Bridging AI and Human Expertise for Sustainable Scholarly Communication: Enhancing Integrity and Efficiency

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Chirag “Jay” Patel
Cactus Communications

SPEAKERS:
Renee Hoch
PLOS

Chhavi Chauhan
American Society for
Investigative Pathology

Matt Giampoala
American Geophysical Union

REPORTER:
Michele Springer
Caudex

Artificial intelligence (AI) seems to be taking over the scholarly publishing industry. Everyone is talking about it—the good, the bad, and the scary. This session explored the transformative potential of AI in scholarly publishing and examined how we, as humans, can work with AI to strengthen the integrity of academic publications and expedite knowledge dissemination. It shed light on the synergistic relationship between AI and human expertise and discussed ways to utilize AI to achieve the goal of long-term sustainability in scholarly publishing.

Challenges and Opportunities of AI

Chirag “Jay” Patel opened the session by discussing the challenges and opportunities associated with AI. Some of the main challenges include biases, data privacy, and lack of transparency in terms of AI use. On the contrary, generative AI has incredible potential to broaden audiences and increase reachability regarding accessibility with tools, such as live translations and text-to-word. Patel believes that although AI will change the way we work, it won’t take our jobs. For the best outcome, AI and human expertise need to be used together. There are many opportunities for AI in publishing. It is our responsibility to check out the different models, test them, and create prompts that will serve our needs.

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Speakers were asked how AI can help increase sustainability and efficiency in publishing workloads. Patel said to remember the acronym HITL, or “human in the loop”—AI can increase outputs and efficiencies, but it’s important to keep humans involved. Matt Giampoala echoed this sentiment, stating that while AI can cut down the time we spend on processes, it’s important to keep humans involved. Chhavi Chauhan agreed, saying that AI can be leveraged to decrease turnaround times, cut costs, and increase accessibility. Using AI to translate publications into other languages can help increase access to high-impact publications.

AI Tools and Techniques

Next, the speakers were asked about specific AI tools and techniques currently being used in scholarly publishing. Renee Hoch provided some examples, stating that AI is helpful for detecting plagiarism and paper mill content, and that STM Integrity Hub is working on tools that can detect duplicate submissions, both within and across publishers. AI can also be used to identify issues with reference lists, verify reagents, and flag image integrity issues—Proofing and Imagetwin are 2 examples of this type of program. With AI, there is a lot of opportunity to enhance integrity checks prior to publication.

“I don’t think technology is going to save us. I think we have to rely on our social systems and make policies on how to move forward with AI.”

—Matt Giampoala

The speakers were asked which tools should be exposed to authors for presubmission use, and which tools should be reserved for internal integrity checks. Patel shared an example of an editor who uses ChatGPT to write better letters to authors whose work is rejected. Rather than a generic letter, ChatGPT can help write customized, personalized letters explaining why manuscripts were rejected and sometimes suggesting alternate journals. So far, this has been well

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received by authors. Chauhan added another example: Her organization partners with Elsevier, which is rolling out an AI tool that will scan an article when it is submitted to assess scope and make recommendations to a human editor about how well the article aligns with the target journal. This does not eliminate the human element, but rather makes the decision-making process faster and easier.

Chauhan also discussed key issues publishers should consider before incorporating AI. There are some ethical concerns regarding generative AI and large language models (LLMs). LLMs provide outputs based on the prompts that we create. As we improve our prompting, we receive better outputs. However, in some instances, these LLMs are being monetized (e.g., you might get better outputs if you used the paid version of a program). Chauhan wonders if, by using these models more and more and incorporating them into our workloads, we are creating disparities for those who might not be able to afford these tools (e.g., those in resource-limited settings). She also noted that people in rural areas or places without reliable Internet connections might not have access to the same resources as others.

Giampoala added that there is always potential for bias. Biases exist in humans, and we might inadvertently introduce bias into AI when we program or prompt. Hoch flagged privacy and confidentiality as concerns—if you are using a tool that requires you to upload content for unpublished submissions, this could breach privacy. Publishers should consider this and determine if it needs to be addressed in their policies or author agreements.

Applications of AI

Next, the speakers were asked about AI usage in peer review, specifically with ethics in mind. Hoch answered first, saying she does not think generative AI will replace editors and reviewers. Peer review is a pillar of publishing, and knowing that a manuscript has been reviewed by an expert in the field is a key reason why authors trust what is published. However, AI has the ability to provide a lot of support to reviewers (e.g., rapid literature reviews, data analysis, etc.). It is important for editors and reviewers to

disclose when they use AI, and to keep in mind that they are responsible for what they write (i.e., any outputs from AI should be checked for accuracy). Chauhan added that she feels humans and their backgrounds can add more value to their reviews. A lot of the knowledge and insights we have as humans simply won't be available to LLMs until we feed it into them. Giampoala agreed, saying that although reviewers can take advantage of AI tools, it is still the reviewer's responsibility to act ethically.

The next topic discussed was how AI can assist with inequities and inequalities. Hoch stated that AI can help with access to information by creating summaries in different languages or for people who have limitations in how they are able to interact with research. This can help with research progress and can allow for diverse perspectives.

Patel then asked the speakers what is on their wish list for new AI technologies to address new and ongoing challenges in publication ethics and publishing. Hoch would choose the ability to detect fabricated data and images. Chauhan would like to see an LLM that is fed high-impact peer-reviewed material and is available globally without firewalls. Giampoala would like to see useful LLMs that are rooted in peer-reviewed scientific literature and always return to the source to work out attributions and permissions.

Audience Q&A

During the audience Q&A, speakers were asked how publishers evaluate material that has been translated by AI. Chauhan responded that there is a human element to this, and someone who understands both languages will need to check the AI's work.

The speakers were asked how they are using AI during day-to-day business operations. Answers included meeting summaries, meeting recordings, note-taking, categorizing survey results, generating images, developing test questions and assessments, idea generation, and summarizing research papers.

An audience member asked which AI programs are available for users to try out. Responses included Paperpal, Writefull, Trinka, Scite, and Elicit, with the note that many more are currently in the works.

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Artificial Intelligence in Scholarly Publishing: Responding to Opportunities and Risks

MODERATORS:

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Highwire Press

Patty Baskin

American Academy of Neurology

SPEAKERS:

Robert Althoff

UVM Health Network

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Heather Staines

Delta Think

REPORTER:

Peter J Olson

JAMA Network

Never trust anything that can think for itself if you can't see where it keeps its brain.

When Arthur Weasley admonishes his daughter Ginny with the above adage in JK Rowling's *Harry Potter and the Chamber of Secrets*, he's referring to a deviously sentient diary that exists within a fictional world of magic and sorcery. Yet, as quoted by Hilary Peterson at the CSE 2024 Annual Meeting, his warning aptly evokes the concerns and trepidations that surround the use of artificial intelligence (AI) in the very real world of scholarly publishing. In a timely and fascinating session moderated by Tony Alves and Patty Baskin, Peterson and her fellow panelists addressed both the risks and opportunities connected with AI usage in the publishing process by providing their perspectives, sharing their experiences, and—without the aid of a crystal ball—offering their thoughts about the future.

Cases in Point

Alves kick-started the session by inviting each panelist to describe their encounters with AI within the context of their respective professional roles. Robert Althoff, Associate Editor of the *Journal of the American Academy of Child and Adolescent Psychiatry* (JAACAP), UVM Health Network, shared 2 tales from a journal editor's perspective. In the first tale, the JAACAP editors encountered a review that was "a little off," and an AI detection program indicated

a 92% likelihood that the review had been penned by AI. The relatively new reviewer admitted to having used an AI tool out of curiosity, but stressed that no confidential information had been included in the review. In response, JAACAP added a question to their reviewer submission system: "Have you used AI or AI-assisted technology in your review?" In the second tale, another author ran their reviewer responses through an AI tool to ensure they were adequate. Although this scenario raises different questions regarding confidentiality, it nonetheless prompted another update to the JAACAP submission system to ask authors whether AI or AI-assisted technology had been used to respond to reviews.

In her role as university librarian at Oregon Health & Science University (OHSU), Robin Champieux focuses on scholarly communication, rigor and reproducibility, and open science, which—as she noted—equips her with 2 unique lenses through which she views the AI landscape: as a leader of a biomedical library and as an advocate of open access and rigor and reproducibility. Peering through these lenses, Champieux cited 3 AI-related endeavors at OHSU. First, there is a continual effort to help researchers navigate publishing and scholarly communication activities and decision-making as they relate to engaging AI in terms of its ethics and transparency (among other things). Second, both educators and learners are taught to scaffold their AI literacy; this is particularly important at OHSU, where the learners are also authors. Finally, because libraries are the stewards of information, OHSU staff are constantly considering not only how AI tools impact access to information, but also how they intersect with use of copyrighted and licensed content.

When it comes to AI and AI-assisted technology, Peterson, as Associate Publisher at the American Psychological Association (APA), is primarily concerned with publication policy—though she noted that the APA relies heavily on the expertise of its community to help develop the policies that govern its 90 journals. In 2023, the APA Publications and Communications Board ratified a policy that is consistent with the policies of other publishing institutions: AI cannot be considered an author because it cannot meet the responsibilities that come with authorship, cannot sign forms, and cannot attest to the content of an article. Furthermore, authors are required to disclose the use of any AI tools and

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to upload any output as supplemental material; however, the latter requirement is proving challenging, Peterson said, as many authors don't retain the output or indicate that it is too voluminous to provide. Such challenges present a greater conundrum of whether to renew a policy in response to every new-use case that comes along, particularly given how rapidly the field is evolving.

Heather Staines continued the conversation around publication policy from the perspective of an industry consultant. As Director of Community Engagement at Delta Think, Staines stressed that helping a client develop an AI policy is not a one-size-fits-all endeavor given the myriad variables at play, including an institution's mission, the discipline within which it operates, and the pace at which AI tools are evolving. On top of that, important conversations are being had around AI tool investments—namely, to ensure that the integration of a given tool for a given client will be feasible and sustainable by assessing whether the tool creator has a business model and directional goals that are compatible with the client's own goals. Staines also noted that her concerns around such investments in the education space overlap with Champieux's, particularly when it comes to cost; although many academic librarians might like to add certain AI tools and services to other content they've already licensed, their flat or decreasing budgets are preventing them from doing so.

Opportunities

Alves then asked the panelists about the potential opportunities presented by AI in the world of scholarly publishing. Champieux once again championed the concept of rigor and reproducibility, the subject of a PhD course she teaches at OHSU. Recently, she and her students attempted to improve the Methods section of a paper on cell line authentication by entering it into ChatGPT, and the results were "quite impressive." Additionally, she said, AI-assisted technology can provide her students with opportunities to simulate real-world practices and problem-solving that are otherwise sparse in a classroom setting. Althoff added that from the journal editor's standpoint, there is excitement about the many AI tools that have the capability to streamline workflows, improve scope checks, and enforce accountability. As one example, he opined that if a journal has an adequate and well-established review process, that process could be learned by an AI tool to assist journal editors with prior probabilities—something that humans are generally "terrible" at. If a computer can help establish those prior probabilities, Althoff said, a human can then take that information and learn how to apply it properly to create a more efficient process.

Harking back to her belief that publishing institutions must engage with their communities, Peterson framed the potential

opportunities for publishers within this context. Noting that the process of establishing publication policy has to be "bottom-up" vs "top-down," she stressed that publishers should resist taking an authoritative approach and instead foster a culture in which a community's ethics are the drivers of AI policy-making and sustainable best practices. One particularly encouraging endeavor she cited is CANGARU,¹ a meta-analysis of publication policies and instructions for authors designed to establish a unified set of AI-related policy standards within the scholarly publishing industry.

Alves then asked Staines if she thought AI was just a flash in the pan. Staines, a historian, responded by saying that she takes a longer view of things. The industry is still in the very early stages of AI-assisted technology, she said, and "there are a lot of smart people out there who will figure some of these things out." She then suggested that it would be interesting to revisit this session at the CSE 2030 Annual Meeting to reflect on the things we thought would be a concern but weren't. Saying that she doesn't believe AI is "the end of knowledge" (in a playfully apocalyptic tone), she fully believes that the future will simply look different than what we might imagine now.

Risks and Unintended Consequences

Opportunities are usually accompanied by risks, and each panelist went on to discuss the risks that concern them most. Althoff's primary concern is ownership. There's no doubt that AI algorithms are going to improve more than we can predict, he said, so industry leaders must educate their constituents about the ethics of AI-assisted technology, think carefully about how they're promoting the use of AI tools—and avoid becoming subservient to them. He closed by saying that education and community engagement will be the keys to mitigating the many risks involved. Champieux echoed this sentiment and said that OHSU is having similar conversations around ethics and education. Furthermore, she has underlying concerns about equity and accessibility. Engagement with AI tools is increasingly becoming a workplace experience requirement, which for her, raises questions about the equitable distribution of engagement opportunities as well as the inherent accessibility of such tools to all learners and researchers.

Staines affirmed Champieux's musings about equity by noting that such concerns are shared by many of her clients: What are the biases of the training dataset? What biases are built into the prompts? Does the diversity, equity, and inclusion (DEI) benchmarking tool for reviewers and authors incorporate non-Western names? Noting that the bar for DEI best practices is moving constantly—and rapidly—Staines said that AI policies that cross over with a publisher's

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DEI-related initiatives will need to be increasingly more sophisticated to accommodate and anticipate ever-evolving ethical considerations, particularly for disciplines in which the gestational period of an article is much longer than that of other disciplines.

Peterson closed the session by reciting the aforementioned *Harry Potter* quote to express her primary concerns: privacy, confidentiality, and a general distrust of AI. The latter concern is particularly prominent when it comes to citations of source material, she said. If an AI tool is used to cite sources, how disconnected might those citations be from the original material, and to what degree might they be misrepresented or even plagiarized? Does an AI tool know if an article has been corrected or retracted? If a preprint is cited, does the tool know if changes were made between the preprint and the ultimate publication? For Peterson, sacrificing such authenticities for efficiency is a substantial concern.

The Future

No longer the stuff of fiction and fantasy, AI is here to stay—and how the scholarly publishing industry should best use it to further the field while also preserving the integrity of the publication process is far from simple. Fortunately, the industry is rife with role players like the panelists for this session: influential, expert publishers and practitioners who are asking the important questions, proceeding with caution and flexibility, and establishing reasonable and responsible policies, all while maintaining an optimism that an AI-assisted greater good is indeed an achievable goal.

Reference and Link

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FAIR Data: What It Is and How We Can Support Its Principles

MODERATOR:

Jenna Daenzer

Peer Review Coordinator
GENETICS & G3

SPEAKERS:

Taunton Paine

National Institutes of Health

Gabriele Hayden

University of Oregon Libraries

Karen Yook

WormBase and microPublication
Biology

Matt Giampoala

American Geophysical Union

REPORTER:

Tony Alves

HighWire Press

The FAIR (Findable, Accessible, Interoperable, and Reusable) Data principles have become essential guidelines for modern data management and scholarly publishing. These principles are designed to enhance the quality and impact of research by ensuring data is managed and shared in a way that maximizes its utility and accessibility. The CSE 2024 Annual Meeting session on FAIR Data brought together experts from various fields to discuss the challenges and opportunities associated with implementing these principles. Each speaker provided unique insights into the practicalities and benefits of FAIR Data.

NIH Data Management and Sharing Policy

The National Institutes of Health (NIH) Data Management and Sharing Policy underscores the importance of data sharing to advance rigorous and reproducible research. Taunton Paine, Director in the Scientific Data Sharing Policy Division of the Office of Science Policy at the NIH, emphasized that sharing data enables the validation of research results, makes high-value datasets accessible, and accelerates future research directions. The policy also aims to increase opportunities for citation and collaboration, promoting public trust and transparency in research. The NIH has a long history of encouraging data sharing, with policies dating back to 2003 for data sharing plans and more specific policies for genomic data and clinical trials introduced in subsequent years. Despite these efforts, data accessibility remains a challenge, with studies showing low rates of data availability and sharing across various disciplines (Table).

The policy requires that all NIH-funded research include a data management and sharing plan (DMSP). This plan must outline how data will be managed and shared and

emphasizes the use of established repositories to ensure data quality and accessibility. The DMSP is assessed by NIH staff and can be updated to reflect changes during the research project. The NIH also provides resources to help researchers comply with these requirements, including guidance on selecting appropriate repositories and protecting participant privacy. The policy acknowledges that not all data generated during research will be suitable for sharing and provides criteria for determining which data should be shared. Factors such as informed consent, privacy concerns, and legal or ethical restrictions are considered valid reasons for limiting data sharing.

Role of Data Management Librarians

Gabriele Hayden, Research Data Management and Reproducibility Librarian at the University of Oregon Libraries, highlighted the crucial role of data management librarians in supporting FAIR Data principles. Librarians offer regular workshops on data management tools such as R, Python, and GitHub, and provide consultations on programming, statistical methods, and data lifecycle management. They assist researchers with writing data management plans, identifying appropriate repositories, and developing metadata to ensure data is findable and usable. These services are essential for helping researchers navigate the complexities of data management and sharing, especially in disciplines with diverse data norms and structures.

However, data management librarians face significant challenges. They cannot enforce data-sharing policies or ensure compliance across hundreds of disciplines. This enforcement gap often results in low rates of data sharing, even when authors have committed to sharing their data. A study published in PLOS ONE found that fewer than 21% of authors who included data-sharing plans in their articles provided links to repositories storing the data. The session underscored the need for enforceable data-sharing policies to ensure that the benefits of data sharing, such as increased citations and greater research impact, are realized.

Publishing FAIR Data

Karen Yook from WormBase and microPublication Biology discussed the importance of curating published data to ensure it meets FAIR principles. Curation involves both entity identification and fact extraction, which ensures data is correctly annotated and linked to relevant metadata. This process helps make data findable, accessible, interoperable, and reusable. Yook highlighted the challenges of ensuring

<https://doi.org/10.36591/SE-4703-04>

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Table. List of studies showing low rates of data availability and sharing across various disciplines.

Author	Finding	Year
Tedersoo et al. ¹	<ul style="list-style-type: none"> Evaluated data availability in 875 papers across nine disciplines published 2000–2019 Data requests successful 39.4% on average; ranged 27.9%–56.1% per field, 19.4% of requests declined after repeated follow-up 	2021
Errington et al. ²	<ul style="list-style-type: none"> Attempted to repeat 193 experiments from 53 high-impact cancer biology papers; able to obtain data for 32% of experiments 	2021
Gabelica et al. ³	<ul style="list-style-type: none"> Requested data from 1,792 papers published January 2019 with data availability statements; 6.8% of authors provided the requested data 	2022
Narang et al. ⁴	<ul style="list-style-type: none"> Evaluated data availability for 213 NIH*-funded pediatric clinical trial publications Individual-level participant data available for 3.3% of publications 	2023
Hussey ⁵	<ul style="list-style-type: none"> Requested data from 52 papers employing Implicit Relational Assessment Procedure over previous 5 years; 26.9% of authors provided the requested data 	2023 (preprint)
Ioannidis et al. ⁶	<ul style="list-style-type: none"> Reviewed 5,340 papers on COVID-19 in 9 infectious disease journals in 2019 and 2021; 9% of papers made data available (rates by journal ranged 5%–25%) 	2023
Hamilton et al. ⁷	<ul style="list-style-type: none"> Reviewed 105 meta-analyses of data sharing in 2,121,580 papers published 2016–2021 Found declared and actual public data availability of 8% and 2%, respectively Success in privately obtaining data from authors ranged between 0% and 37% 	2023

*NIH, National Institutes of Health.

data quality and completeness, noting that peer review alone is insufficient to guarantee good data. She advocated for databases and journals to work together to validate data, append FAIR metadata, and maintain data accessibility long after publication.

An example of effective data curation was provided through the work done by microPublication Biology. The journal publishes single experiment results with DOIs and ensures these are discoverable on platforms like PubMed and Google Scholar. Data from these publications are curated directly into community databases such as WormBase, SGD, and FlyBase, which enhances their visibility and utility. The curation process involves verifying entities, annotating facts, and correcting any incorrect or missing information, which is vital for maintaining the integrity and usability of published data.

AGU's Open Science and Data Strategy

Matthew Giampoala, Vice President for Publications for the American Geophysical Union (AGU), discussed the AGU's commitment to open science and FAIR Data. AGU's strategy includes requiring data and software sharing in published outputs, integrating data into peer review, and connecting articles to curated repositories. The AGU has been actively promoting open science through initiatives like the Coalition on Publishing Data in the Earth and

Space Sciences (COPDESS) and the Enabling FAIR Data project. These efforts aim to ensure that all data supporting publications are preserved in trusted repositories and properly cited.

AGU's Open Science strategy is designed to accelerate the pace of science, increase its impact, and expand applications of data and science (Figure). The organization emphasizes the importance of making research accessible, reproducible, and inclusive. By supporting open data, open software, and open information, AGU aims to foster collaboration and innovation across the scientific community. The strategy includes establishing methodologies for measuring the adoption of FAIR Data policies and increasing the usage and citation of data sets.

Open Science: Why and What

We are facing **big** challenges (climate change, hazards, limited resources...). We need **more** people – more hands, more eyes, more brains – with diverse experiences to participate so that we ask the best question and find the best solutions.

- Accelerates the **pace** of science
- Increases the **impact** of science
- Expands **applications** of data and science
- Shares **hidden** knowledge & expands **participation** in science

AGU
OPEN SCIENCE

Open Science:

- Accessible:** open data, open software, open information
- Reproducible:** Make sharing and collaborating more efficient by supporting open software tools, frameworks, libraries, and open infrastructures
- Inclusive:** innovative pathways to participating and expand public/private partnerships



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Conclusion

The CSE 2024 Annual Meeting session on FAIR Data highlighted the critical importance of adopting FAIR principles in scholarly publishing. Despite the challenges in implementation and enforcement, the benefits of making data findable, accessible, interoperable, and reusable are clear. By promoting rigorous data management practices and fostering collaboration between researchers, librarians, publishers, and repositories, the scientific community can enhance the transparency, reproducibility, and impact of research. The ongoing efforts by organizations like the NIH, AGU, and WormBase serve as exemplary models for how to integrate FAIR principles into the fabric of scientific research and publishing.

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CSE has launched a repository of journal and organizational statements related to diversity, equity, and inclusion.

Many journals have begun working to improve editorial board diversity, evaluate peer review processes for implicit bias, revise guidelines for authors, or develop training opportunities, while others are struggling with where to start.

Has your journal or organization issued a statement about policies and practices related to diversity, equity, and inclusion? Please consider sharing your efforts with our community by completing the [DEI Resources Submission Form](#) on the CSE homepage under "Resources."

Submitted resources will be publicly available on the CSE website.



Jam Session for Manuscript Editors

MODERATOR/SPEAKER:
Peter J Olson

JAMA Network

REPORTER:
Deanna E Conners

 Roswell Park Comprehensive
Cancer Center

Over 30 science editors joined facilitator and storyteller extraordinaire Peter J Olson, Freelance Manuscript Editing Coordinator, JAMA Network, for an interactive presentation and discussion about the practical aspects of editing scientific manuscripts. Olson based the jam session format on a similar session at a recent American Medical Writers Association meeting, and it was a departure from the typical session format at a CSE annual meeting. The format seemed well received by attendees, as indicated by the lively conversations.

The goals of the session were four-fold: 1) have a structured, interactive discussion about the various characteristics, tenets, and practices of manuscript editing; 2) explore different backgrounds and perspectives; 3) share knowledge, ideas, and suggestions; and 4) build and bolster community.

The opening conversations were centered on how people got started in the field of manuscript editing. Advanced educational degrees in the sciences, English literature, and communications were common among the editors present. Many had formative experiences in college and graduate school, such as taking a science communications course or tutoring in a writing center. Others fell into this line of work later on in life while in fulfilling careers by providing editorial support to colleagues. Skills have been honed through on-the-job training, certification programs, and professional development opportunities. A fondness for the written word was readily apparent.

Next, the following topics were used to guide the discussion.

The Big Picture

Editors were encouraged to keep the big picture in mind, from the conception of new ideas to the publication of findings in scholarly journals and how they fit into the whole process and add value. Conversations explored the roles and responsibilities of editors and challenges inherent to the work. One comment explaining how editors ensure

consistency elicited many collective nods of agreement. Added responsibilities beyond just editing within editorial offices and the drive to reduce publication times were cited as current challenges editors are grappling with.

Editing With Style

Style guides are the *sine qua non* of manuscript editing (Figure), and many of the editors present have helped to develop supplemental house style guides for their organizations. Rare instances when an editor needs to deviate from the style guides were the focus of much amusement. Sage advice was offered: "If you're going to be incorrect, be consistently incorrect."

Know What You Don't Know

This segment was introduced with a quotation, "He who does not know should have the humility to ask," from the writings of José Saramago. Understandably, editors will occasionally have to query the author to ensure that the changes they have made are accurate or appropriate. Additionally, editors will occasionally need to fact-check particular text, for example, names, dates, statements of novelty, and technical terminology. The audience spent time here discussing their favorite online tools and databases for the latter work. Examples provided included the FDA-approved drugs database,¹ Integrated Taxonomic Information System (ITIS),² Pubmed,³ USGS's Geographic Names Information System (GNIS),⁴ UniProt (for proteins),⁵ and HUGO gene nomenclature database.⁶

To Change or Not to Change: That Is the Question

Experienced editors are acutely aware of the importance of maintaining the author's voice whenever possible, as exemplified by the many apropos comments from attendees: "if no one knows I exist, I did my job right"; "the longer I do this, the lighter my edits have become"; "[editors must] differentiate between changing a word because it's wrong and changing a word because it's different." Both showing restraint (e.g., not changing words merely on the basis of personal preferences) and knowing when the content is good enough (i.e., there are diminishing returns on effort) were cited as hallmarks of editorial experience. Conversely, editors must confidently execute revisions when changes are needed for clarity (e.g., defining acronyms, explaining jargon).

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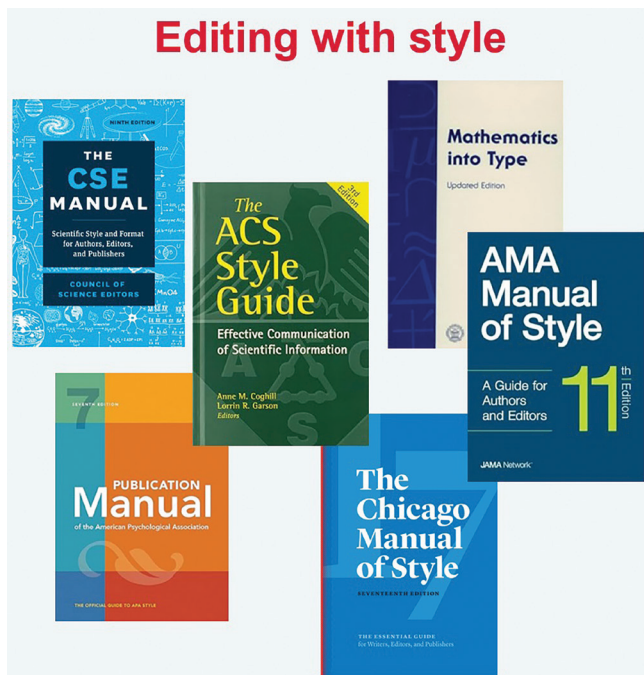


Figure. Commonly used style guides during the manuscript editing process. Image Credit: Peter J Olson.

To Err Is Human

Lastly, the attendees discussed strategies for error prevention and dealing with published errors. Questions that are important to ask include: how substantive is the error, how easy will it be to correct, who needs to be notified, are new procedures needed to prevent such errors in the future? The answers to those questions can help guide your next steps. Notably, there are vocations where certain errors must be treated as “never events” (i.e., serious, preventable errors that should never occur), such as in surgical specialties and the space industry. Could those fields help to inform the ways in which errors are dealt with in scholarly publishing?

Summary

All in all, there was a high level of engagement in the jam session for manuscript editors. For me, this opportunity to learn from and share experiences with colleagues was one of the most enjoyable parts of the CSE meeting.

Post-session Q&A

Do you think the jam session format worked well at CSE and will you consider using it again?

I think it worked exceptionally well. I was really pleased that so many felt comfortable sharing their stories, suggestions, and experiences, and I was equally happy for those attendees who felt content to simply soak it all in and hear what others had to say. Manuscript editors are often on the quiet side, but they’re also some of the most passionate people in the industry—so it was wonderful to see that passion translate into lively discussion. I would definitely attempt to use this format again for a topic that was conducive to it, and I received feedback from more than one person that it would be interesting to see other sessions adopt a similar format at future meetings.

Any advice for those who might want to begin editing for science journals?

I’d start by acquiring a couple of books, the first of which is *Essentials of Writing Biomedical Research Papers* by Mimi Zeiger. Although it’s tailored to researchers and is specific to the biomedical discipline, it nonetheless provides a good general overview of how a scientific research article is written. The second is *The Copyeditor’s Handbook: A Guide for Book Publishing and Corporate Communications* by Amy Einsohn and Marilyn Schwartz. As the title suggests, the target audience here is much broader, but much of the guidance is applicable to manuscript editing in the sciences. This book also has a companion, *The Copyeditor’s Workbook*, for those who want to independently practice the craft. Beyond that, I’d scan the Internet for online courses you can take to develop and hone your skills—and I’d also consider pursuing freelance work to pick up some experience and explore what the Editorial Freelancers Association (<https://www.the-efa.org/>) has to offer. Finally, I’d be remiss if I didn’t suggest joining CSE to take advantage of some of their educational content, including the Short Course for Manuscript Editing.

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6. <https://www.genenames.org/>

Starting a New Open Access Journal: Perspectives From the Front Lines

MODERATOR:

Audra Jensen

J&J Editorial

SPEAKERS:

Justin Byrne

American Academy of Allergy,
Asthma, and Immunology

Carolyn de Court

J&J Editorial
@CarolynMariePTL

Kathryn A Phillips

Health Affairs Scholar – Global
and Emerging Health Policies
@KathrynP_phd

REPORTER:

Erin Landis

Origin Editorial

The CSE 2024 Annual Meeting session, “Starting a New Open Access Journal: Perspectives from the Front Lines,” featured a Q&A format that helped shed light on the myriad considerations for launching an open access (OA) journal. The session featured peer review management professionals and an editor-in-chief, which provided a well-rounded set of perspectives on the topic. Following is an overview of the questions that moderator Audra Jensen posed to the speakers, as well as a summary of their responses.

Why Start an OA Journal?

The panelists noted that there are a variety of reasons to start an OA journal, including wanting to keep good research “in the family,” instead of it being published elsewhere, to keep pace with the ever-accelerating shift toward an OA landscape in scholarly publishing, compliance with funder mandates, and providing authors with more choices for where and under what model to publish their research.

What Pain Points Have You Encountered?

Starting a new journal, let alone an OA journal, can present challenges, not the least of which, as the panelists noted, is convincing a society’s leadership that a new OA journal is necessary. Other challenges expressed by the panelists included attracting de novo submissions to the new OA journal (vs. having submissions cascade from the “parent” or “sister” journal), finding willing reviewers, navigating the indexing process, and the sheer amount of time and resources it takes for a successful launch.

<https://doi.org/10.36591/SE-4703-06>

Can You Please Discuss Your Journal’s Relationship With Sibling Journals and With the Publisher.

The panelists emphasized the need for a collegial and collaborative relationship among sibling journals, especially among the editors-in-chief and editorial boards. It is common for sibling journals to view each other competitively and for there to be concern that a new journal will cannibalize the submissions of the existing journals. To mitigate concerns over competition and foster a collaborative environment, the panelists offered several suggestions from their own portfolios, including hosting regular meetings among sibling journals (for both editorial boards and staff), having a clear understanding of the cascade relationship among the journals, and setting clear expectations for each journal in terms of its position and scope relative to the other journals in the family.

For the panelists whose journal programs have a publishing partner, they noted that the publisher was instrumental in all aspects of launching the new OA journal, including providing market research, guidance on scope, assistance with author recruitment, and comprehensive support with the indexing process.

What did You Not Know then that Now You Wish You Had Known, and What Would You Have Done Differently?

Carolyn De Court, J&J Editorial, emphasized the need to promote the new journal well in advance of the journal going live to build awareness and excitement—this strategy will help attract submissions for when the journal is ready to accept them. Justin Byrne, American Academy of Allergy, Asthma, and Immunology, advised that programs should build-in more time than they think they need when launching a new OA journal to account for unforeseen tasks and challenges. Other observations included reassuring authors that their articles will eventually appear in PubMed, and that indexing expertise is critical to building successful applications.

Where is OA Going Next and What are the Key Steps for Moving Forward?

The panelists agreed that OA will continue to evolve and become more firmly ingrained in scholarly publishing,

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- Resources from an [Editage](#) Insights article:
- **sOApbox** or the Coalition S blog presents viewpoints, interviews, and practical guides related to Plan S and related initiatives. It seeks to educate and motivate both the academic and publishing communities about the importance of OA, while also laying the groundwork for its realization. This blog holds a wealth of resources on all matters related to the past, present, and future of OA.
 - **The Open Access Tracking Project** is a community-driven resource that aggregates news and developments related to OA. Its primary goals are to provide timely notifications of developments in OA and to organize information within the field for convenient search and sharing.
 - **Scholarly Publishing and Academic Resources Coalition (SPARC)** is a nonprofit group that advocates for open and equitable systems in research and education. Its offerings include resources, news, and advocacy tools to promote OA, including updates on policy developments, funding opportunities, and best practices in scholarly communication.
 - **The Scholarly Kitchen**—a platform for open dialogue on scholarly publishing and communication—is a blog that aims to provide information about new publishing developments and share research reports and projects. In its archives, you can find plenty of OA-related posts.
 - **The STM OA Dashboard** charts the progress being made by OA every year. It highlights essential facts and figures, such as the uptake of OA by model, discipline, region, and more.
- STM**, a global trade association for academic publishers, published an **annual OA progress report** for the first time last year. In this report, key OA statistics have been provided in an easy-to-grasp manner. We can look forward to these annual OA reports

Figure. List of resources to help keep editorial professionals abreast of developments in the open access space.

with Kathryn Phillips, *Health Affairs Scholar – Global and Emerging Health Policies*, noting that we need more evidence of its impact on research and its outputs. They also emphasized that all stakeholders in the scholarly publishing ecosystem need to be more informed and educated about OA, including authors. To help stay abreast of developments in OA, De Court shared a list of helpful resources (Figure). Byrne also suggested that a journal's publisher is also a good source of information about OA.

The participants in the session were very engaged and had a number of questions for the panelists themselves, which are summarized below.

How Did You Develop a Unique Identity for Your New OA Journal?

Advice for this question included using social media to develop a “personality” for the journal, conducting market research and gap analyses to understand where the new journal can “fit” in the landscape, and marketing the unique aspects of the journal that are not content-focused

but rather, focus on other characteristics such as fast peer review, global focus, author engagement, etc.

What Process did Your Society Follow to Seek Approval for the New OA Journal?

The panelists explained that they needed to acclimatize their leadership to the idea of a new OA journal, providing the rationale and value for launching one. They leaned heavily on the support of their publishers to present such justification to their governance boards.

What are the Success Metrics for Your OA Journal?

The panelists' answers to this question, based on the goals they had set for their new OA journals, included attracting and publishing a certain number of papers within the first year, hitting revenue targets, achieving a predetermined rejection rate, and time-to-decision.

In summary, the panelists provided very practical insight and advice to anyone whose organization is looking to launch a new OA journal.

A Community-Based and Scholar-Led Open Research System: What Will This Look Like and How Do We Get There?

MODERATOR:

Dax Rodulfa-Blemborg

American Society of Hematology

Daniela Saderi

PREreview

SPEAKERS:

Ashley Farley

Bill & Melinda Gates foundation

Ivonne Lujano

Community Manager
Directory of Open Access
Journals (DOAJ)

Lisa Cuevas Shaw

Center for Open Science

REPORTER:

Denise Kuo

Origin Editorial

The stage was set for a robust discussion of a community-based and scholar-led open research system as Daniela Saderi enumerated the reasons why scholarly communication needs to change, including the need to be more equitable, speed sharing of research outputs, realizing the full potential of peer review, and decoupling editorial gatekeeping from academic career incentives.

Inspired by the recent release of “Towards Responsible Publishing: A Proposal From cOAlition S,” the session began with Saderi making the case for aligning the approach to disseminating scholarship along the 5 principles detailed in the proposal. The approach calls for the author to be placed at the center, with other stakeholders committing to support the sustainability and diversity of the publishing ecosystem as quality control is achieved through open, community-based processes (Figure 1).

Each speaker described a different aspect of the envisioned community-based and scholar-led open research system and hopes for the future of the ecosystem. As co-Founder and Executive Director of PREreview, Saderi focused on peer review expertise, which can be achieved through peer review training programs, open platforms where ORCID-identified scholars can provide constructive feedback, and experts across the world can engage in live collaborative reviews. In this vision of a community-based and scholar-led open research system, the peer

review expertise discussed by Saderi would be applied to preprints.

Representing the Bill & Melinda Gates foundation, Ashley Farley provided context for the funder’s support of approaches to open scholarship that serve the best interests of the public and the academic community as envisioned by the foundation. Committed to Open Access (OA) for a decade, the foundation has demonstrated the value of collective action through membership in Plan S and is working toward a more inclusive future in research dissemination. Farley gave an overview of the foundation’s recently released Open Access Policy Refresh and connected the intent behind the policy refresh with the principles of a community-based and scholar-led open research system (Figure 2).

Themes throughout focused on improving diversity and equity, and similarly to Saderi’s presentation, preprints take on an important role in the foundation’s vision. It was agreed through discussion that the policy refresh focuses primarily on changes that will impact commercial publishers of Bill & Melinda Gates foundation-funded scholarship, leaving society publishers unclear of how, or if, they fit into the foundation’s vision for a community-based and scholar-led open research system.

Ivonne Lujano, DOAJ’s Community Manager and Ambassador in Latin America, presented the Latin American publishing model as one example of a successful implementation of a community-based and scholar-led open research system. The Latin American publishing model evolved over the course of nearly 40 years, taking the first steps in the 1980s as an emerging model that included transition to digital publishing systems, the introduction of government legislation, and the first arguments for alignment between regional science and national interests. The model continued to develop over several decades around the core value that science is the shared responsibility of the public, government, and academic institutions, and it is a fundamental expectation that science is supported by government and public funds distributed to researchers and institutions.

The Latin American publishing model developed in an environment that has never had a strong commercial publishing presence, which contrasts with the so-called

<https://doi.org/10.36591/SE-4703-07>

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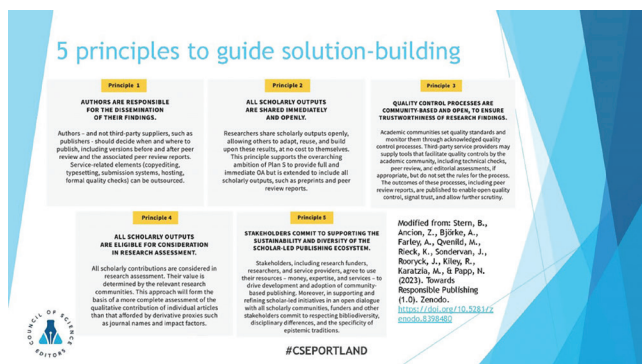


Figure 1. Five principles to guide solution-building, presented by Daniela Saderi, PRReview. Panels are modified from the cOAlitionS report Towards Responsible Publishing (1.0) (CC BY 4.0).¹

Global North climate that includes several large commercial publishers that were an important consideration for the Bill & Melinda Gates foundation's refreshed policy.

The Latin American model successfully serves universities, research centers, museums, and governments through a suite of products including SciELO, Latindex, and LA Referencia. However, the model is not foolproof. Lujano outlined several risks to continued success, including the reliance on public funds, which are controlled by governments that change over time, and the implementation of past policies that have inadvertently led to job insecurity.

The Directory of Open Access Journals (DOAJ), a community-funded, open infrastructure, is intentionally working to make it easier for community-based and scholar-led open research systems like the Latin American model to succeed. Language of publication is not a criterion for inclusion, and applications are reviewed manually by a human (not artificial intelligence), with a focus on the services a journal provides are two examples of how DOAJ demonstrates commitment to ensuring a diverse index (Figure 3) through an equitable application process.

As an example of a potential implementation for community-based and scholar-led open research, Lisa Cuevas Shaw described Lifecycle Journals, a proof-of-concept pilot initiative currently in progress with 3 years

Open Access Policy Refresh

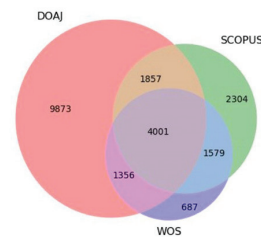
Key Objectives



Figure 2. The Bill & Melinda Gates foundation's Open Access Policy Refresh, presented by Ashley Farley.

DOAJ is a diverse index

We are vital for the visibility of 9873 journals that aren't in Scopus or Web of Science.



DOAJ <https://blog.doaj.org/2023/07/06/doaj-is-confirmed-as-a-unique-platform-for-many-open-access-journals-and-a-key-index-for-african-journals/>

Figure 3. Directory of Open Access Journals (DOAJ) indexes 9873 journals that are not indexed in Scopus or Web of Science, presented by Ivonne Lujano, DOAJ (<https://blog.doaj.org/2023/07/06/doaj-is-confirmed-as-a-unique-platform-for-many-open-access-journals-and-a-key-index-for-african-journals/>).

of funding. A key component of Lifecycle Journals is the focus on opening the entire lifecycle of research to allow all processes, outputs, data, code, and beyond, to be shared, evaluated, and rewarded. Throughout the 3-year pilot, 10 to 30 projects will complete the process with Lifecycle Journal. In contrast to the historical approach of peer reviewing only the final product in the form of a manuscript, the shift to including all outputs means that peer review and other evaluation methods will be applied at multiple points and to different portions of the research. Building on elements of registered reports and F1000, additional current tools and services have been incorporated to foster evaluation diversification and pathways for experimentation and incorporation of novel evaluation methods (Figure 4).

The 3-year project includes an assessment of whether to transition to pursue a scalable product and sustainability model. Continuing beyond the pilot will require funding support from a range of sources, including philanthropy, government, and institutions.

There were variations to the vision of a community-based and scholar-led open research system in each presentation, but all placed importance on the need to change academic career incentives to achieve the goal.

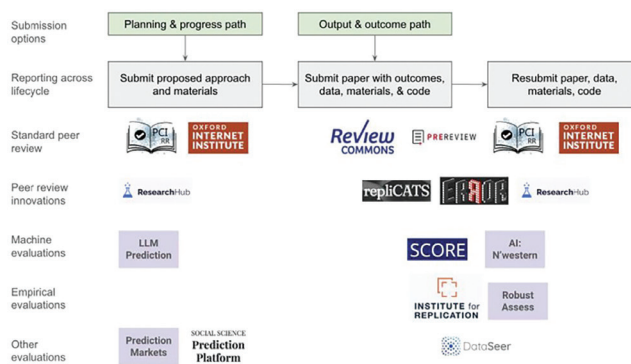


Figure 4. Slide presented by Lisa Cuevas Shaw, Lifecycle Journals.

(continued on p. 124)

Summary of the C4DISC Toolkit: A Focused Toolkit for Journal Editors and Publishers: Building DEIA in Editorial Roles and Peer Review

Patricia K Baskin

Although most scholarly journal editors/publishers recognize the value of DEIA (diversity, equity, inclusion, and accessibility) among their associate editors and editorial boards, it can be overwhelming to constitute a new editorial board or change a long-established one, in which diversity has not been included. Editors need advice and practical suggestions regarding the actions they can take to diversify their boards and promote equity in peer review. The latest toolkit in the Coalition for Diversity in Scholarly Communications (C4DISC) Toolkit for Equity series, *A Focused Toolkit for Journal Editors and Publishers: Building DEIA in Editorial Roles and Peer Review*,¹ was released Tuesday, May 7, 2024, on the C4DISC website. The toolkit was authored by members of the Society for Scholarly Publishing's DEIA Committee.

The toolkit recommends "practical and relevant actions for editors and publishers to take to create broad representation on editorial boards and to ensure fairness and minimization of bias in the peer review process." The following is a brief summary of the major sections of the toolkit.

Five major recommendations explored in the toolkit are reflected in the infographic (Figure).

Recommendation 1

The first recommendation outlines actions to help develop an inclusive culture and mission. One of the first steps is an editorial commitment to create a diversity statement and to consider publishing it along with an editorial committing to

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Building Diversity, Equity, Inclusion, and Accessibility in Editorial Roles and Peer Review



addressing inequities in the field. In selecting an editorial board, suggested actions include setting goals for diverse representation, including new people in the editorial process, and appointing one or more dedicated associate editors or editorial board members to review papers for compliance with DEIA language and policies. Other actions include

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promoting data sharing and open access for all researchers to use and setting baseline standards for inclusive language and reporting.

Recommendation 2

The second recommendation details steps for collecting and reporting demographic data of those involved in the editorial process to guide goal-setting and subsequent actions to improve diversity. Suggestions include gathering baseline demographic data. One of the first challenges is deciding which terms to use and the methods for gathering data, keeping in mind that demographic data needs to be gathered in a way that respects privacy, including intentionally gathering explicit consent, anonymizing data, and only reporting aggregate data. Because security is essential, access to data must be limited to only necessary staff. The toolkit suggests targeting editors and editorial board members first to try out the methods.

Recommendation 3

The third recommendation advises on recruiting broadly and intentionally for both editorial roles and reviewers. Suggestions include thoughtfully considering the criteria you list, including considering characteristics, background, and core strengths rather than teachable skills or acquired positions, when posting position descriptions. Further recommendations include using neutral, clear language and avoiding biasing terminology, conducting a group review of calls for nominations and role descriptions to get different perspectives on whether the language could be biasing, and enabling open calls for nomination and self-nomination to encourage candidates who may not have been identified to apply.

More suggestions from Recommendation 3 include recruiting intentionally to persistently marginalized communities, identifying prospective candidates from speakers or reliable reviewers, and considering ways to make selection and interview processes more fair and transparent—with diverse committees and standardized questions. When setting up an editorial board, create alternative opportunities for early-career researchers to gain editorial experience and seek them out to participate on editorial boards. This includes creating roles for guest editors and section editors, budgeting editorial fellowships to create an opportunity for early career researchers from diverse backgrounds, and providing opportunities for additional professional development, such as writing and editing editorials, book reviews, or blog postings.

Recommendation 4

The fourth recommendation suggests creating ways to train and mentor reviewers. Suggestions include providing accessible learning tools (e.g., resources such as the American Psychological Association: “Learn How to Review a Manuscript”²), developing peer review mentorship programs and allowing for coreviewing, providing feedback to reviewers, placing “Calls for Reviewers” on your journal website, and ensuring your journal’s content is accessible and easily read by a screen reader.

Recommendation 5

Finally, the fifth recommendation provides education and training actions and models to increase equity in the peer review process itself. Suggestions include providing bias awareness or diversity training for editors and reviewers, educating editors on resources that promote diverse research methods and transparent reporting standards, and promoting style guides on avoiding bias in language. Other ideas include coaching reviewers to be on the lookout for noninclusive language.

The recommendation provides some guidelines and ideas about exploring alternative peer review models, such as double-anonymous and triple anonymous peer reviewing, and encouraging reviewers to disclose if anyone assisted them in a mentoring relationship and offering credit to those who assisted. Considering diverse, multistep editor decisions to minimize bias is also discussed, along with developing annual reporting to assess potential bias throughout the peer review process.

I encourage you to read the toolkit in detail and focus on the recommendations that you believe your editors are ready to implement. All new editors like to be seen as innovative and progressive when they take the reins. Finally, it’s important to remember that all authors should be beneficiaries of equitable peer review. Feedback during the peer review process results in strengthening results, designing future research, and, in the case of medical journals, improving patient care.

Translations of this toolkit in Spanish and Portuguese will be coming soon.

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Is There Such a Thing as a Scholarly Publishing Influencer?

Jennifer Regala

YES. Full stop. Period, as the kids would say.

Who is an influencer? Merriam-Webster's description defines this noun as "one who exerts influence: a person who inspires or guides the actions of others... *often, specifically*: a person who is able to generate interest in something (such as a consumer product) by posting about it on social media."

It's no secret that I love social media. I enjoy it on a personal level, sure—I'm currently loving the cucumber guy¹ on TikTok (if you know, you know) and the Olympians on Instagram. Over time, I've had many personal choices influenced by individuals prominent on social media.

I've also been influenced NOT to behave in certain ways. I've seen people sell their homes and turn their minivans into houses on wheels (although I do have a pretty sweet GlamVan), cover their keyboards with Elmer's glue and then douse them with rainbow glitter, and even very publicly quit their jobs in viral posts. Will I choose to do any of these things? No. Was it interesting and informative to interact with these posts? Heck yes.

What does any of this have to do with scholarly publishing, though? As I considered social media influencers and their impact on my personal life, I started thinking about how valuable certain individuals and organizations have been to me in recent years on my career journey. If not for social media, I would not have had access to or awareness of most of these resources. I have learned so much from each of them. I don't always agree with everything these vocal leaders have to say, but I might never have had the opportunity to form an opinion on a topic one way or another without them. We live in a world where community, respect, and understanding are very hard to find. Social media influencers earn followers for a reason. They open our eyes to fascinating new perspectives we would not have been privy to otherwise. Usually, they

have given a lot of thought to what they are presenting, and in many instances, they have the research and receipts to back up what they're dishing.

A recent conversation with someone I consider to be the most outstanding example of a scholarly publishing influencer led me to write this column. More about that conversation in a moment because first, you need some background. James Butcher writes the iconic Journalology (subscribe for free at <https://www.journalology.com/>), a weekly newsletter that curates everything you need to know about our business. Not only does James take the time to collect the most relevant information we all need to read, he provides his own wisdom and experience to apply context for each article, blog post, etc., he shares. Poking around on his website, I found a review² I had written about what Journalology means to me:

The #1 best thing about Journalology is how accessible it is - it is an effortless read that flows exceptionally well and keeps me 100% engaged, which is hard to do in this world of distractions and constant looming deadlines. It's like watching an Olympic skier do the slalom - it looks so easy, and it's a pleasure to watch (plus a little nerve-wracking, just like publishing!). But behind the scenes, the effort that James Butcher puts into these newsletters to give us that user experience is phenomenal. It's my favorite newsletter and it inspires thought-provoking questions each and every week among our American Urological Association publications team.

Who should read this newsletter? That's easy - anybody who wants to not only survive but THRIVE in scholarly publishing. This newsletter is the key to keeping me relevant and knowledgeable in this ever-changing environment.

Thank you, James, for Journalology. I also want to point out to the scholarly publishing community that James interacts on a personal level with his readers. James has picked up the phone to call me, interacted on social media with me, etc. in direct response to my questions and concerns. And he does that for everyone. Not only is the newsletter a tremendous resource, but James is a valuable leader of our community. Thank you!

Jennifer Regala is Associate Director, Publications, at Wolters Kluwer Health.

Opinions expressed are those of the authors and do not necessarily reflect the opinions or policies of their employers, the Council of Science Editors, or the Editorial Board of Science Editor.

<https://doi.org/10.36591/SE-4703-21>

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James not only writes this newsletter, but he engages with the entire community in a thoughtful and calculated way. I notice he spends a lot of time on LinkedIn, for instance, sharing his newsletter and highlights and commenting on countless posts from others. Most meaningful of all, though, is that James is willing and eager to connect 1-on-1 with his followers. I wrote to James back in the early days of Journalology, and the rest is history. He took the time to chat in person on a video call, and with that, I had a new publishing friend (and a very intelligent one at that). A good influencer is smart, but a great influencer is smart AND generous.

In a recent call, I tried, unsuccessfully, to convince James to become a TikTok/Instagram Reels video influencer. At the time of publication, James was pretty adamant about not exploring that route, but perhaps he'll change his mind soon.

And to get an idea of the wit and sense of humor of James Butcher, check out Journalology #80, "Picket lines."³ If you scroll to the end of the newsletter, James mildly roasts my use of the term "fanny pack" from a prior *Science Editor* article, "The story of the JU fanny pack trilogy: the last rodeo"⁴ and goes on to recount his own swag debacle at a past conference.

Other Influencers to Watch

I'm sharing my favorite scholarly publishing influencers, not to shape your follow list for you, but to encourage you to cultivate your own. Please also note that I'm always focused on growing my sphere of influence, and I encourage you to do the same.

- **Prachee Avasthi.** @PracheeAC on X. Prachee's X bio reads: Scientist. Co-founder & CSO @ArcadiaScience. Head of Open Science @AsteralInstitute. Immigrant. she/her. I follow Prachee for a researcher's perspective on open science and her belief in its essential place in publishing.
- **Elizabeth Bik.** @MicrobiomDigest on X. Elizabeth's bio reads: Science integrity consultant, PhD. #ImageForensics Previously @ Stanford and (gasp!) uBiome. She/her. elisabethbik.bsky http://patreon.com/elisabethbik. Along with ~152,000 other followers, I look to Elizabeth to learn anything and everything I can about research integrity, and I am in awe of her ability to use image forensics to identify fraud in publishing.
- **Duncan MacRae.** Duncan MacRae⁵ on LinkedIn. Duncan is the Director, Editorial Strategy and Publishing Policy, Wolters Kluwer. He is an expert at making challenging concepts simple. Read this article explaining JIF to experience his gift yourself: Making Sense of the 2024 Journal Citation Reports.⁶
- **Chhavi Chauvin.** Chhavi Chauhan⁷ on LinkedIn. Chhavi is an AI, research integrity, and editorial policy expert. Most importantly, though, she's scholarly publishing's most positive and kind person. You'll love following her spread joy and positivity in the articles she writes, her extensive volunteer work, and the kind messages she is always leaving for her colleagues.
- **Chirag Jay Patel.** Chirag Jay Patel⁸ on LinkedIn. Jay is the Head of Sales, AI, Research Integrity, Sci Comms, and SDGs and describes himself as being "at the intersection of AI, research integrity, comms, and SDGs." Enough said.
- **The Scholarly Kitchen Cabinet.**⁹ If you're not reading the original scholarly publishing influencer showcase each and every day, you're missing out on staying on top of everything you need to do your job well. And the Chefs are the definition of scholarly publishing influencerhood.

Why Should You Be Interested in What Scholarly Influencers Have to Say?

- **Increase your network.** Observe who these resources are quoting and interacting with and check them out yourself. You'll find that your web of knowledge will grow quickly and exponentially.
- **Enhance your understanding and personal relevance.** If you're not learning from others, you're not growing. You can learn from those more advanced than you and those just starting out in their careers and everyone in between.
- **Let others help you save time.** We have precious little time in our day job schedules. Take advantage of others who are sharing what they know.
- **Build your community.** We only have limited opportunities to mingle in person at conferences and events. Influencers offer windows into worlds beyond your own.

Who's the Most Important Influencer of Them All?

That would be YOU. Yes, YOU. You are an incredible asset to scholarly publishing, and your voice should be heard, too. Only you can decide who to look to for insight as you continue to layer on your foundation of knowledge. And what are you offering back to the world? How can you influence those around you? Which social media tools will you use to do so?

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Ask Athena: Difficult Authors and Sharing Papers

Ask Athena is *Science Editor's* advice column for your most challenging publishing and editing questions. Submit your questions to scienceeditor@councilscienceeditors.org.

Ask Athena: How Do We Handle Difficult Authors?

Dear Athena,

We have a reputable author who does good work and is well known in the field. This author used to be an Associate Editor for our journal. The author has been very vocal about their dislike of the Science Editor process at our journal and constantly pushes back against standard journal policies. Recently, the author has flat-out refused to address technical check items (e.g., formatting the supplemental files properly) because they feel they should not have to.

My general question is this: Would Athena recommend bending the rules and/or doing the work on behalf of this author, or standing firm with the requirements and telling the author to make the changes or withdraw the paper? The paper is at the second revision and is very close to acceptance. On the one hand, doing the work for the author will appease them, the paper will be accepted, and we will all go our merry way—but the author will likely continue to bully our journal and others in the way they have been. On the other hand, if we dig in, the author will most certainly take to X to put down the journal, and an R2 paper on which we spent many hours editing and processing will be rejected.

—*Bending the Rules*

Dear Bending the Rules,

While I can appreciate how difficult it would be to lose the paper after so much work has already been invested, I

At Ask Athena, we recognize that there are often a variety of opinions and options when faced with sticky situations, especially those that do not have an obvious answer. We do our best to provide sound guidance but appreciate that others may have a different view. In the spirit of open communication, we would love to hear your thoughts and answers on the questions we cover in the column. Email us at scienceeditor@councilscienceeditors.org.

Answers to Ask Athena questions are a group effort by members of the CSE Education Committee.



keep going back to your use of the word “bully.” No matter how well-known or regarded an author may be, I believe protecting your staff from this behavior is more important. Therefore, I would not recommend bending the rules for this author and would instead stick firmly to the journal guidelines and policies. You might also remind the author of these rules and stress why they are important to follow (such as added time to publication and/or the likely opportunity for introduced errors if staff are to fix unaddressed technical matters).

If you have a marketing or PR person/staff, I would alert them to the potential of this author taking to social media to criticize the journal and ask that they monitor the situation and have a plan in place should the dispute go viral. Similarly, it's also important to ensure that any communication sent from the staff to the author is clear and polite, in case these communications are posted online. It will be your best defense!

Always,
Athena

Ask Athena: Sharing Papers in Peer Review

Dear Athena,

I work for a small society publisher. We are getting ready to publish a series of articles on a particular topic that relates

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to something our organization is working on. Recently, someone from a different department within my organization asked to see the manuscripts before they were accepted. I'm not sure how to respond. I know the peer-review process should be confidential, so maybe I should not share these papers? On the other hand, she only wants to see them for reference, so her department knows what is coming. I want to be a good coworker, so maybe I should just share them? What do you think?

—*Not Sure if I Should Share*

Dear Not Sure,

I can see your dilemma. Of course you want to be a team player and share information with your coworkers. On the other hand, you are absolutely correct that papers submitted to a journal are to be considered confidential until the time of publication.

For questions like this, it can often be helpful to turn to the International Committee of Medical Journal Editors (ICMJE). In this case, ICMJE recommends, "Editors therefore must not share information about manuscripts, including ... their content and status in the review process, criticism by reviewers, and their ultimate fate, to anyone other than the authors and reviewers."¹ With this in mind, your response to your coworker should be a polite refusal

to share. I understand it can feel awkward to refuse what seems like a reasonable request from a coworker, but if you can point them to policies like this, it shows this is not just your opinion, but accepted practice.

And while it might seem selfish for you not to share the articles, there are good reasons for the ICMJE policy. What if your coworker did not agree with what was written in the article and requested changes before publication? That would definitely introduce a conflict of interest. You would have to refuse, since any requests for changes should come from the corresponding author. What if the coworker shared the article with others, spreading them around before publication? That would violate your embargo, along with the author's reasonable expectation that their submission would be kept confidential until publication.

Hopefully, you can arm yourself with this explanation for your coworker and avoid any hurt feelings.

Always,
Athena

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