

SEPTEMBER 2025 • VOLUME 48 • NUMBER 3

SCIENCE EDITOR



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IN THIS ISSUE:

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Rhodomenia laciniata.



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VOLUME 48 • NUMBER 3

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On the cover: This Science Editor cover features a cyanotype of *Rhodomenia laciniata* taken by Anna Atkins and published in her book *Photographs of British Algae in 1843*. A cyanotype is an early photographic process typically used for contact printing, such as in this case where the algae is placed directly on light-sensitive paper and exposed to sunlight. As Atkins wrote, "The difficulty of making accurate drawings of objects as minute as many of the Algae and Confera, has induced me to avail myself of Sir John Herschel's beautiful process of Cyanotype, to obtain impressions of the plants themselves." Atkins's book is unique as every page, including the title and all text were produced via these photographic means instead of traditional typesetting. **Credit:** Spencer Collection, The New York Public Library. *Rhodomenia laciniata*. Retrieved from <https://digitalcollections.nypl.org/items/50718470-c612-012f-2409-58d385a7bc34>. Public Domain.



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Publication Pressure vs Research Integrity: Global Insights from an Asian Council of Science Editors Survey

Maryam Sayab, Lisa M DeTora, and Muhammad Sarwar

Abstract

A survey conducted by the Asian Council of Science Editors (ACSE) investigates how publication metrics may influence academic research integrity. With input from 720 researchers worldwide, the findings highlight a critical tension between metric-driven academic pressures and ethical research conduct. A notable proportion of respondents reported feeling compelled to compromise ethical standards, citing practices such as paid authorship, predatory publishing, and data falsification. Institutional incentives and publication requirements emerged as major contributing factors. Despite these concerns, there is strong momentum for reform, especially toward quality- and impact-based research evaluations. This article frames the findings in the broader context of academic culture and offers actionable recommendations for stakeholders, researchers, institutions, and publishers to collaboratively restore integrity at the heart of scholarly work.

Introduction

The academic imperative to publish, often captured by the phrase “publish or perish,” has become a global phenomenon, exerting significant pressure on researchers at every career stage.¹ From graduate students to senior

faculty, the volume and frequency of publications are frequently tied to hiring decisions, promotions, funding, and institutional rankings. While these expectations aim to promote productivity and visibility, they can also blur the line between ethical scholarship and opportunistic behavior.¹⁻⁴

In environments where institutional metrics reward quantity over quality, researchers may find themselves navigating a landscape fraught with ethical dilemmas. Practices such as guest authorship, submitting to predatory journals, or even manipulating data can arise not from a lack of awareness, but from systemic pressures embedded in academic evaluation structures.⁵⁻⁸ While much of the existing literature has explored these dynamics in the context of Western institutions, there is a growing need to examine how these forces manifest in more diverse global settings, particularly in regions where research ecosystems are still evolving or under-resourced.

To fill this gap, the ACSE initiated a global survey to capture the perspectives of researchers on the impact of publication-driven metrics on research integrity. With 720 responses spanning multiple countries and disciplines, the survey offers a rare and timely look at how structural incentives, publication practices, and ethical considerations intersect. This article unpacks those findings, highlighting both the challenges and opportunities for reform, and proposes actionable pathways for institutions, publishers, and policymakers to recenter integrity within the scholarly publishing ecosystem.

Methodology

Survey Instrument Development and Content

The authors deployed an anonymous online survey to investigate the perceived influence of publication pressure on research integrity. The survey instrument consisted of 6 questions (Table), grouped thematically: influence of

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<https://doi.org/10.36591/SE-4803-05>

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Table. Survey questions used in the study, including response type for each question.

No.	Question	Response Type
1	Has the emphasis on publication metrics (e.g., impact factor, indexing) negatively influenced your research approach?	Single Choice (Yes/No)
2	Have you ever felt pressured to compromise research integrity due to publication demands?	Single Choice (Yes/No)
3	Have you witnessed or become aware of any of the following unethical practices by researchers due to publication pressure?	Multiple-choice, multiple-selection
4	Do you believe institutional publication requirements contribute to unethical practices?	Single Choice (Yes/No)
5	Which of the following changes would be MOST effective in reducing the negative impact of publication pressure?	Multiple-choice, single-selection
6	Would you support a global initiative to reform academic evaluation criteria and reduce reliance on publication metrics?	Single Choice (Yes/No)

metrics, ethical compromises, prevalence of misconduct, institutional drivers, and reform solutions.

Survey Respondents

The survey was distributed through the official communication channels of the ACSE, targeting its members and affiliates, including sister organizations and scholarly publishing networks. The majority of ACSE members are researchers, editors, and professionals actively engaged in academic publishing. To help contextualize responses and ensure data quality, participants were asked to provide their name and institutional affiliation. While formal identity verification was not conducted, this information allowed us to reasonably verify that the majority of respondents were affiliated with research institutions or scholarly roles.

Participant Recruitment and Data Collection

Data were collected from February 15 to March 31, 2025, through a Zoom global online survey platform. Participants were recruited via the following:

- Direct email invitations sent to ACSE membership
- Scholarly mailing lists of ACSE contacts
- Professional social media outreach (via LinkedIn)

Participation was voluntary, with informed consent obtained online. The survey materials clearly stated that all responses would be kept anonymous and confidential.

Results

The survey received 720 completed responses. Respondents represented diverse disciplines (e.g., life sciences,

engineering, medicine, humanities), multiple regions (notably South Asia, Middle East, Africa) (Figure 1), and various career stages from early-career researchers to senior faculty.

Geographic Distribution of Respondents

The distribution of responses by region reveals a strong representation from Asia (310) and Africa (183), indicating significant engagement from these areas, as consistent with ACSE membership. In contrast, participation from Europe (52) and the Americas (34) was less pronounced. Notably, 93 responses were categorized as “Anonymous” due to a lack of provided location information. The regional disparities in response rates warrant consideration when interpreting the overall findings.

The most represented nations were India (128) and Nigeria (86). Responses were also provided by researchers in Bahrain, Benin, Cambodia, Chile, Colombia, Croatia, Czechia, Gabon, Georgia, Ghana, Greece, Guinea, Guyana, Hong Kong, Ireland, Japan, Jordan, Libya, the Netherlands, Norway, Oman, Portugal, the Republic of Korea, Rwanda, Serbia, Sierra Leone, Slovakia, Slovenia, Switzerland, Syria, Taiwan, Tanzania, Thailand, Togo, Ukraine, UK, United States, Yemen, and Zimbabwe (Figure 2, online only).

Survey Questions Overview

The visual representation of survey responses shown in Figure 3 highlights both the strength and the consistency of the trends observed.

The survey results (Total Responses = 720, Duration = 46 days, Anonymous = 93, Countries = 88) highlight a complex interplay of factors related to publication pressure

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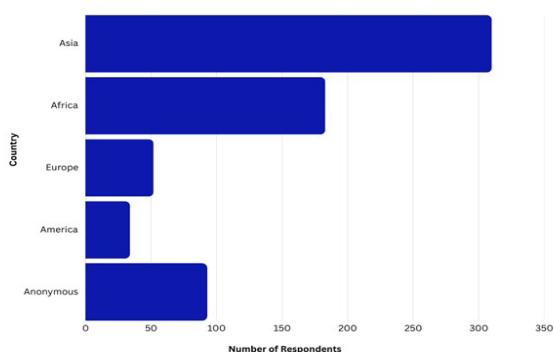


Figure 1. Geographic distribution of survey respondents, grouped by region (n = 720). This bar chart displays the total number of respondents from each major geographic region. The “Anonymous” category indicates responses where the country of affiliation was not provided.

and research integrity. While a majority of respondents did not perceive a negative influence of publication metrics on their research approach (A: 68% No) and did not report feeling pressured to compromise integrity (B: 62% No), a significant minority expressed concerns in both areas (A: 32% Yes; B: 38% Yes). Awareness of unethical practices was widespread, particularly concerning “Paid Authorship” and “Predatory Practices” (C), and a majority of researchers believed that institutional requirements contribute to these unethical behaviors (D: 61% Yes). The most favored change to reduce pressure was a shift toward research quality and real-world impact (E), and there was overwhelming support

for a global reform initiative (F: 91% Yes). These findings underscore the need to address systemic issues within the research environment to promote ethical conduct and prioritize impactful scholarship

Discussion

The ACSE survey collected a total of 720 responses from a globally diverse community of researchers, editors, and professionals in the scholarly publishing ecosystem. The results offered valuable insights into participant awareness, opinions, and perceptions surrounding ethical publishing practices. While the survey achieved a broad international reach, the geographic distribution of respondents was skewed toward certain regions, with a notably high number of responses originating from India and Nigeria.

Our study revealed significant pressure to publish among respondents, with a notable proportion reporting pressure to compromise ethical standards to meet publication demands. The strong representation of researchers from India and Nigeria, as highlighted in Figure 1, provides valuable insights into settings that are often underrepresented in the existing literature on this subject. This global survey also explores the perceived influence of publication pressure on research integrity, revealing a multifaceted and concerning picture of how academic pressures shape research behavior, integrity, and attitudes toward ethical practices.

As illustrated in Figure 3A, a substantial proportion of respondents (32%, 228/720) acknowledged that the emphasis on publication metrics, such as journal impact



Figure 3. Visual representation of survey responses.

CONTINUED

factor and indexing, negatively influenced their research approach. This finding underscores a growing concern that metric-driven evaluation systems may distort academic priorities, shifting focus from genuine inquiry to performance-based outputs.⁴ This perception validates longstanding critiques of metric-centric academic environments, which many argue foster superficial output rather than meaningful scholarly contributions.⁵⁻⁷

Furthermore, 38% of respondents (276/720) admitted to feeling pressured to compromise research integrity due to publication demands (Figure 3B). This substantial minority reflects a worrying trend that merits serious attention. This finding aligns with existing literature suggesting that the “publish or perish” culture, often driven by funding criteria and career advancement metrics, may encourage shortcuts or unethical research practices.^{8,9} Such pressures can lead to a normalization of deviant practices, ultimately undermining the reliability of the scholarly record.^{10,11}

A widespread awareness of unethical practices within the academic community was also evident. More than half of participants reported awareness of practices such as paying for authorship (62%, 432/720), submitting to predatory journals (60%, 423/720), and data fabrication/falsification (40%, 282/720) (Figure 3C). This normalization of unethical conduct suggests a systemic issue within the scholarly ecosystem, where exposure can lead to desensitization and eventual acceptance.¹² The prominence of predatory journals is especially troubling, given their role in undermining peer review and disseminating unvetted research.^{13,14}

The study also sheds light on the role of institutional culture in shaping researcher behavior.¹⁵ A majority of respondents (61%, 439/720) believed that institutional publication requirements have contributed to unethical practices in academia (Figure 3D). This suggests that evaluation systems designed to reward quantity over quality may unintentionally encourage questionable research practices.¹⁶ As Healey notes, performance-based funding models often intensify these pressures, calling for a critical reevaluation of how institutions assess academic merit.¹⁷

Despite these concerns, the survey revealed a strong appetite for reform. When asked about potential solutions to reduce publication pressure, the most favored response was a shift toward prioritizing research quality and real-world impact (42%, 297/720) (Figure 3E). This preference aligns with broader efforts in the scholarly community, such as the San Francisco Declaration on Research Assessment (DORA),¹⁸ which advocates abandoning journal-based metrics in favor of more holistic and meaningful research evaluation.⁶

Support for reform extends beyond individual preferences, as demonstrated by the overwhelming

majority of respondents endorsing a global initiative aimed at revising academic evaluation criteria (91%, 636/720) (Figure 3F). This broad consensus underscores the urgency of structural change to foster an ethical, transparent, and impactful research culture.^{19,20}

Interestingly, respondents favored a phased approach to reform, recognizing the complexities involved in transforming entrenched academic systems (69%, 482/720). Gradual implementation allows for inclusive stakeholder engagement, systematic learning, and long-term sustainability.²¹⁻²³

Key Implication

The current academic environment, with its heavy emphasis on publication metrics, appears to be generating pressures that can compromise research integrity. This reinforces the urgent need for institutions to reassess how performance is measured and rewarded, ensuring these mechanisms will promote ethical behavior rather than incentivize misconduct.

Encouragingly, the research community appears both aware of and supportive toward reform initiatives that prioritize research quality and societal impact over sheer publication volume.

Further Considerations

While this survey provides a valuable global snapshot, further analysis could yield even deeper insights. Exploring how variables like career stage, research discipline, or geographic location influence pressures and ethical compromises would deepen our understanding. Moreover, the qualitative data collected through open-ended survey responses offer an untapped opportunity to understand the nuanced, lived realities behind the statistics, particularly the specific forms of pressure researchers encounter and the coping strategies they employ. Future research might also consider cross-disciplinary comparisons and targeted case studies to supplement these findings.

Conclusion

The ACSE Global Survey reveals some serious concerns among the researchers and editors who responded to our survey. While the majority of researchers remain committed to ethical principles, a significant minority report facing pressures that threaten to undermine the integrity of scientific inquiry. These pressures are not isolated missteps, but rather the byproducts of deeply embedded systemic factors, especially institutional evaluation practices that elevate publication metrics above meaningful scholarly contribution.

Researchers are sending a clear message: the academic reward system is overdue for reform. Sustaining research excellence requires shifting priorities toward quality, societal value, and ethical rigor.

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To realize this vision, the following actions must guide future efforts:

- Reform academic evaluation systems to reward quality over quantity.
- Integrate ethics and research integrity training across all career stages.
- Strengthen policies against predatory publishing.
- Support global initiatives such as DORA and COPE for responsible research assessment.
- Recognize and value methodological rigor, replication studies, and negative results.

Scientific integrity is not self-sustaining; it is a collective responsibility that demands continuous commitment from researchers, institutions, funders, and publishers alike. The ACSE's findings offer both a warning and an invitation to rethink how academic success is defined and to ensure that integrity remains the cornerstone of scholarly progress.

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Working Together: Practical Advice for New and Ongoing Publishing Partnerships

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Denise Kuo

JMIR Publications

SPEAKERS:

Adam Etkin

Origin Editorial LLC

Heather Goodell

American Heart Association

George Woodward

Oxford University Press

REPORTER:

Ruth Isaacson

Genetics Society of America

Building the Relationship

In the first half of this session, Heather Goodell of the American Heart Association and George Woodward of Oxford University Press presented tips for building and maintaining a successful relationship between the publisher and society or journal.

Both speakers emphasized the need to reframe the traditional view of a publisher and society/journal relationship (Figure). The most successful relationships often occur when both parties approach this relationship as a partnership and spend the time upfront working to understand the perspective of the other.

When entering a new partnership, the first question Woodward asks is “How do you measure success?” His goal is to gain perspective about what is important to the society or journal so that both parties can develop a contract with clear decision points and responsibilities.

Goodell and Woodward recommend that both parties embrace some vagueness when building the contract. For example, the contract might define that the publisher is responsible for providing funding for a submission system; however, it should not name the specific submission system. This allows the journal to switch submission systems as needed without renegotiating or amending the contract. The society or journal should also carefully assess its needs and areas of weakness. For example, if they require reports from the publisher outside of the standard reporting windows, they should include this in the contract. If they rely

on the publisher for analyses they cannot do in-house, then this should be discussed upfront and listed as needed in the contract.

Contracts define trust and liability all while identifying expectations. If each party approaches the relationship as a partnership and talks about the principles that matter, they will be able to develop a contract that is flexible and able to evolve.

Goodell and Woodward also spoke about the importance of continual relationship building. Both parties should keep lines open regarding their goals, which may include publication output and quality level, research integrity, and the overall mission. Often, a breakdown of a publishing relationship is due to the society or journal not feeling listened to. For example, the society may feel pressured to grow for reasons that they do not understand or support. Discussing goals such as output (for both parties) can help to prevent such misunderstandings. Open dialogue can also help to dispel tension and bring about resolution over issues that are rarely binary. When both parties fail to understand each other's culture and goals, this often leads to a dissolution of trust. When the trust is not there, or a society or journal feels trapped, it may be time for them to move on.

Moving On

Adam Etkin with Origin Editorial closed the session with an overview of the process involved in a new publisher search. Typically, societies/journals leave publishers for financial reasons or because they are dissatisfied with the partnership. Even if you are happy with your current publisher, it can be a useful exercise to begin a conversation with your current publisher before ruling out considering new partnerships. As a renewal period draws near, the act of evaluating a current partnership can help the society or journal determine several things, including whether the publisher is still committed, there are potential contract updates, or there are issues such as staffing changes, acquisitions, etc.

The evaluation process should begin at least 18 months in advance of the contract termination date; thus, societies or journals need to be aware of their termination clauses and obligations. Ideally a society or journal staffer has both

(Continued on p. 104)

<https://doi.org/10.36591/SE-4803-02>

RII (Research Integrity Investigation): To Promote and Protect Integrity of the Scientific Record

MODERATORS:

Alexandra Kahler

KGL Editorial

Andrea Rahkola

American Academy of Neurology

SPEAKERS:

Christina Bennett

American Chemical Society

Alicea Hibbard

American Society for
Microbiology

Amanda Sulicz

Institute of Electrical &
Electronics Engineers (IEEE)

REPORTER:

Adria Gottesman-Davis

American Academy of Neurology

In a session that brought together ethics professionals from across the scholarly publishing industry, panelists tackled one of the most pressing issues in modern publishing: maintaining the integrity of the scientific record amid increasing threats, resource constraints, and the evolving digital landscape. The session featured speakers Christina Bennett (American Chemical Society), Alicea Hibbard (American Society for Microbiology), and Amanda Sulicz (IEEE), with a focus on real-world case studies, institutional collaboration, and the changing norms of misconduct detection.

Integrity Complaints on Public Platforms

Amanda Sulicz opened the session with a series of anonymized case studies pulled from IEEE's extensive experience with integrity complaints arising on platforms like PubPeer. These platforms, though often helpful in surfacing valid concerns, increasingly host unsubstantiated or malicious complaints that burden editorial teams.

First, Sulicz shared a case where a tipster alerted IEEE to a series of PubPeer allegations of multiple publications. Upon investigation, IEEE not only found that there was no basis for the allegations, but also that all the complaints targeted two authors. The tipster was unhappy with IEEE's conclusion that no action was warranted and subsequently submitted several additional allegations against the same authors. Of

a total of 23 complaints from 2024 to 2025, only one was found to have possibly violated the multiple publication policy, and as a first offense, carried only a warning. This case raised the question of whether there is a point at which editors should cease to entertain complaints from tipsters who have an established pattern of baseless accusations.

In the second case, IEEE received over 60 accusations of plagiarism against a particular author over a 12-year span, followed by additional allegations against other authors who had published with the original author, and through metadata in the PDF complaints, it was uncovered that the complaints were coming from an individual who had been denied tenure at their university and were targeting those they held responsible for the loss of that position. This case encouraged IEEE to develop policies that will help protect the reputations of authors from malicious allegations and hopefully will encourage online forums to do the same in the future.

Despite these examples of the drawbacks of public platforms and anonymous reporting, these systems can also hold significant value for those seeking to maintain research integrity, as individual sleuths may be knowledgeable and reputable within their field. This is exemplified in Sulicz's final case study of how an anonymous sleuth's tip about authorship for sale helped IEEE identify and expose a paper mill in 2023.

In summary thoughts, Sulicz emphasized the tension between open reporting and harassment, and highlighted the reputational risks to both authors and publishers when frivolous allegations circulate unchecked.

Understanding Paper Mills

Alicea Hibbard presented an overview on how to detect paper mills, using both indicators and characteristics that warn of unethical practices. Indicators, which are binary and easily demonstrated, include traits such as image manipulation, unusual review turnarounds, repeated use of the same personal email address, and suspicious collaboration patterns, such as editors reviewing each other's papers. Characteristics are more qualitative and tend

<https://doi.org/10.36591/SE-4803-03>

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Figure. Hibbard used AI to generate an image of a “phage cocktail” not long after the original case was handled, repeating the prompts several times until the image generator arrived at the first image. Shortly before this CSE meeting, she again prompted AI with “phage cocktail,” and this time the program immediately returned the second image. A striking example of how generative AI is both prone to startling errors born of its limitations, yet is also evolving so rapidly that even its flaws may advance faster than humans can keep up.

to require additional investigation; for example, the use of “plug-and-play” sections or figures is a popular tactic used for imitating valid research in study types such as those involving Mendelian randomization.

In addition to warning signs in the content of a paper, Hibbard also discussed how suspicious collaboration patterns can help uncover paper mill activity, such as in a noteworthy case involving salaried editors writing and reviewing each other’s work in a large-scale breach of peer review integrity. Another warning characteristic is how authors respond when asked to provide data they initially claimed would be available upon request—frequently-used excuses include “the laptop was stolen” or “the graduate student took the data when they graduated.”

Hibbard also highlighted data types that are especially popular for paper mill tactics, such as the reuse of flow cytometry plots and copied Western blot bands, and outlined tools and strategies for detecting misconduct, such as CrossCheck and iThenticate for text overlap, Imagetwin for image duplication, and Seek & Blastn for gene sequence validation.

When it comes to detecting generative AI—a recurring topic at the CSE 2025 Annual Meeting—she shared common warning signs such as the use of tortured phrases, as exemplified in a mini review that caught attention due to the repeated mentions of “mixed drinks” throughout the text (Figure). (They meant phage cocktails.)

Hibbard stressed the importance of objective, standardized retraction notices and the potential of Expressions of Concern as a provisional measure when full investigations are still pending. She recommended

journals take advantage of newly published Committee on Publication Ethics (COPE) guidelines and consider user-facing alerts like those employed by Taylor & Francis.

Collaboration Between Journals and Research Institutions

Christina Bennett reported on a cross-industry working group’s efforts to improve communication between publishers and research institutions during misconduct investigations. Historically, if a publisher alerted an institution to a potential integrity issue, the institution often kept details of any ongoing investigation confidential, leaving the journal waiting for a resolution—and the scientific record uncorrected—for extended periods. By bringing together research integrity officers (RIOs) from universities, institutional counsel, and journal publishers and editors, the working group was able to produce a call-to-action for both institutions and journals.

The group called on institutions to expand the “need to know” criteria during investigations to include journals, and additionally, decouple questions about the data from questions of who may be responsible for the problem so that journals can correct flawed science without having to wait until a responsible party is identified. Journals, meanwhile, were asked to establish policies that would include institutional contacts for fee-for-publish concerns, raise author awareness about such policies, and prioritize correcting the scientific record when the data review portion of the investigation is complete.

The advocacy for a change in U.S. policy was successful, and as of January 2025, institutions are permitted to treat journals as need-to-know partners during investigations.¹ This enables journals to correct the literature more quickly, without waiting for the full inquiry to conclusively identify the parties responsible.

Bennett encouraged editors to contact RIOs even before initiating formal inquiries, including through hypothetical conversations. She also reiterated the importance of separating the correction of data from judgments about culpability, which can streamline editorial decisions and preserve neutrality.

Q&A Highlights

The session concluded with a lively and practical Q&A. Panelists addressed the tension between an institution’s desire to protect high-profile researchers and a journal’s duty to correct the scientific record, as well as a journal’s desire to advocate for their author base and an institution’s duty to secure their own reputation and integrity. One key takeaway: prioritize the data. Whether or not an individual is found guilty, and indeed whether there was any wrongdoing

(Continued on p. 126)

Ethics Clinic: Artificial Intelligence (AI) and Ethics

MODERATOR:

Jennifer Mahar

Managing Editor
Origin Editorial, part of KGL
Editorial Evolution

Sara Kate Heukerott

Associate Director of Publications
Association for Computing
Machinery (ACM)

SPEAKERS:

Paul Graham Fisher

Professor of Neurology and
Pediatrics, Stanford University
COPE Council Member
Editor-in-Chief, *The Journal of
Pediatrics*

REPORTER:

Madeline Talbot

Associate Editor
Wolters Kluwer

Each year, the CSE Annual Meeting hosts an Ethics Clinic sponsored by the CSE Editorial Policy Committee. In this interactive session, speakers present real-life cases to facilitate group discussions of ethical dilemmas that arise in scholarly publishing. Attendees discuss potential approaches and solutions, and speakers share strategies and case outcomes. This year's Ethics Clinic expanded on the meeting's focus on AI in scholarly publishing.

Key Takeaways

- AI is not going away; the use of AI by authors, reviewers, editors, and publishers is inevitable. Stigma toward AI will only make scholarly publishing's management of it more difficult. By understanding and embracing AI, scholarly publishing can ensure it is used ethically by all parties.
- Clear and detailed AI policies for authors, reviewers, editors, and publishers are crucial. An AI policy should be a living document that changes as the technology and its uses continue to develop. AI policies for scholarly publishing should define what uses of AI and which AI tools and large language models (LLMs) are acceptable. Policies should also outline when disclosure of AI use is required.
- Transparency is vital. AI use should be disclosed by authors, reviewers, editorial offices, and publishers alike. Disclosure can help all parties determine whether AI use was ethical, or whether further investigation into its use is necessary.

<https://doi.org/10.36591/SE-4803-04>

Case 1: Suspected AI Use by the Author of a Manuscript

In the first case presented by Dr Paul Graham Fisher, a council member of the Committee on Publication Ethics (COPE), a journal received a reviewer report that identified suspected AI-generated content in a manuscript. The reviewer had uploaded the manuscript to an open AI checker without the journal's permission, and the tool indicated that 75%–82% of the article was AI-generated. This raised ethical and procedural questions for the journal, including whether reviewers can run manuscripts through AI checkers and whether suspected AI use should be included in reviewer comments to the author.

Discussion participants questioned whether the journal had an established policy that outlined what AI use is permitted for both authors and reviewers, including whether the reviewer had breached confidentiality by uploading a submission to an open LLM. Having a clear, detailed AI policy can make it easier to determine whether AI use was inappropriate or within the journal's acceptable boundaries. For example, some journals may allow authors to use AI for grammar checks, but not for content generation. Specificity in a policy is crucial for all parties.

In this instance, participants also discussed the need to tell the author that their submission had been shared with an open LLM, if that was in fact a breach of the journal's established policy. This may not be a pleasant conversation, but the transparency is necessary. The audience and speakers agreed that in this case, and in most AI-related cases, communication here is key: Journals need to be clear with their authors and reviewers on what their specific AI guidelines and expectations are. Reviewers should also understand that AI checkers are not foolproof and are fallible. Dr Fisher noted that it is nearly impossible to "detect properly and definitively AI-generated text." He also recommended that if a journal is considering changing a peer reviewer's comments about AI usage to an author, they should first review COPE's guideline on editing peer reviews.¹

Case 2: Journal Under Attack with Bombing of AI-Generated Manuscripts

Dr Fisher also presented the second case, which explored an instance in which a journal received an influx of AI-generated articles, ranging from nonsensical submissions to highly sophisticated fakes that were difficult to detect. This surge strained the journal's editorial office, leading to

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concerns about how journals with limited resources can defend against AI-driven submission attacks.

This scenario was not unfamiliar to the audience; one audience member shared that their journal had experienced a similar situation in which they had to desk-reject the same AI-generated submission nearly 30 times. In that case, even reaching out to the author directly to ask them to stop did not work. The burden of this can be immense for editorial offices that are already stretched thin or lacking sufficient resources.

Discussion revolved around AI-detection technology, similar to what is currently available to detect papermill submissions, that may become more widely available in the near future. Some audience members were concerned that high-quality detectors will not be equitably available to all journals and publishers with smaller budgets, perpetuating publishing's "pay-to-play" environment. Submission fees even as low as \$1 or \$5 could discourage these types of attacks, but also pose risks, such as isolating international authors who cannot afford those costs. More questions were raised, such as whether AI attacks like the one presented would skew journal rejection rates, or whether it was possible that AI attacks like this one were being done by authors to test whether a journal was predatory.

Although there was no definitive conclusion on how best to handle AI-generated manuscript attacks, the speaker noted that cases like these could be escalated into a civil lawsuit against the author behind the attacks. If a journal is going to involve legal counsel, a clear AI policy must already be in place to determine whether the author's actions are malicious and in breach of that policy.

Case 3: Suspected AI-Generated Peer Review Reports

The session's third case was introduced by Sara Kate Heukerott from the Association for Computing Machinery (ACM). In this case, a reviewer for an ACM-published conference submitted an unusually high number of reviews—more than 20—while also being an author for the same conference. The reviews followed a distinct pattern, including lengthy responses with section headings, bulleted lists, and general remarks. In one instance, the reviewer's notes included critiques of statistical analysis that did not exist in the submission. This raised concerns about the integrity and authenticity of the reviews.

Many questions were raised during the discussion period, including whether this reviewer/author was known to the conference committee and whether ACM vets their peer reviewer pools. Vetting peer reviewers allows journals and conference organizers an opportunity to communicate expectations and reviewer guidelines and share any existing AI-policies that outline acceptable-use for peer reviewers. There are many reasons why a reviewer may use AI as a

support tool that are not necessarily malicious; one audience member suggested the reviewer may be early-career and unfamiliar with reviewer expectations or the conference's policies. Some also felt that the fact that the reviews were potentially AI-generated was a moot point, as a bad review is a bad review, no matter the source.

This case concluded with the audience in agreement that the conference committee needed to communicate journal standards to the reviewer, highlighting concerns about the lack of specifics and the critiques of nonexistent content in their reviews. Heukerott shared that in this case, ACM contacted the reviewer who explained that they were a student looking for ways to contribute to the conference. They claimed that they had completed the reviews over a series of weeks and had used ChatGPT to check and improve their work. After deliberation, the Ethics & Plagiarism committee did not feel that the reviewer entering their reviews into ChatGPT was a breach of confidentiality because the information in the reviews was generic. Because there was no policy violation, the committee determined there was nothing they could do in this situation except to do further educational outreach to their communities to safeguard against this in the future. Without clear and specific AI policies for both reviewers and authors, investigations into cases like these can cost organizations immense amounts of time to determine whether suspected AI use was "right" or "wrong." Encouraging disclosures of AI use can also eliminate confusion in these cases.

Case 4: At-Scale Screening for Suspected AI-Generated Papers Reporting Research Also Suspected to be Fabricated

The fourth and final case, also introduced by Heukerott, focused on the increasing need for rigorous vetting of academic papers to ensure authenticity and research integrity (Figure). The case involved the proceedings of a conference that is not run by ACM but whose proceedings are published by ACM. For such proceedings, ACM requires organizations to reapply annually to publish their proceedings with ACM. Every manuscript undergoes full-length peer review, and all peer-reviewed submissions are assessed using AI checker tools. If content is flagged, ACM sends it to the conference organizers for further scrutiny. In this case, a substantial number of already-accepted conference papers were flagged for containing more than 30% AI-generated text, according to a Morressier integrity product.² When ACM brought this to the attention of the organization hosting the conference, the organizers requested that all accepted materials be checked again using TurnItIn instead of Morressier as the verification method. This raised further questions about the reliability of different AI detection tools, which may produce different

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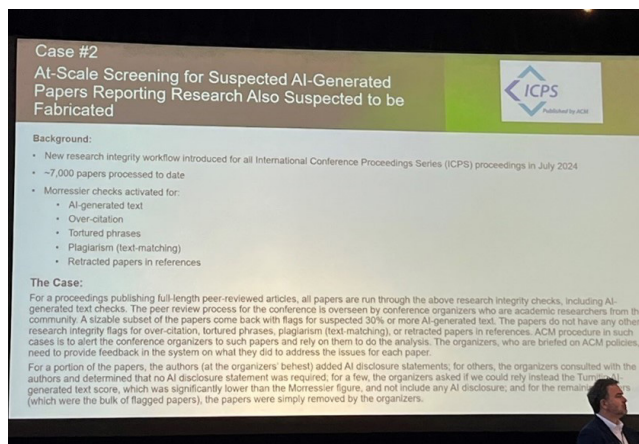


Figure. The second case presented by Sara Kate Heukerott.

results even when evaluating the same materials.

Many attendees were concerned about the order of events, citing that AI detection should have been completed during the peer review phase before any conference materials were accepted. Because AI checks were completed after conference materials were already accepted, ACM had

limited time to fully investigate the potential AI generation in the conference materials. Regarding the accepted submissions that had suspected fabricated research, audience members questioned whether those papers could be removed from the conference, and if not, what evidence could be gathered from authors to determine that the underlying research took place in the limited time ACM had before the launch of the conference.

The conference organizers ultimately decided which conference papers would be removed altogether, and which would require an AI disclosure statement from the authors. It was determined that for future conferences, ACM should 1) have clear guidelines for conference organizers and authors on acceptable AI use; 2) determine and disclose which AI detection tool, like Morressier, is their company's standard; and 3) require that all AI checks be executed before any conference materials are accepted.

References and Links

- COPE Council. COPE guidelines: editing peer reviews—English. <https://doi.org/10.24318/AoZQIusn>.
- <https://www.morressier.com/products/research-integrity-manager>

(Continued from p. 99)

Reframe (or Reinforce) Your Thinking

Partner: not a Vendor

- Both publisher and owner bring strengths to the table
- Know strengths, know weaknesses
- Consider it a partnership, not a vendor relationship

#CSEMINNEAPOLIS



Figure. Working with a publisher.

maintained oversight of the contract and monitored for completion of work outlined in the contract. If not, or the society or journal feels that it is beneficial, then a consultant should be brought in.

First, the society or journal should initiate a conversation with the publisher. The society or journal should go into the conversation prepared to talk about what their strengths are, what they bring to the table, if they are happy, or if not, why they are not. If unhappy, Etkin suggests that the society asks tough questions of itself—sometimes something that feels like a critical issue will not change with a publisher switch (e.g., production being outsourced).

For societies or journals that plan to issue a request for proposal (RFP), they should also evaluate the risk and resources required. There should be a backup plan for if no one responds and one should be aware that this RFP may create unnecessary tension with the current publisher. All three speakers cautioned against issuing an RFP every 5 years, given the amount of time and resources involved.

Should the RFP result in a successful transfer to a new publisher, Etkin shared some items to consider as the process begins. Thanks to the NISO Transfer Code of Practice, the process is now simpler than in the past, but each society and journal should still have dedicated staff monitoring the transition process and schedule. Submission and peer review system shifts are the most labor-intensive process of a transition, even if within the same submission system. There should be plans in place for a 6–12 month submission system transition period, as well as training for staff and editors. The society will also need to ensure that subscriber and member lists transfer, and that members continue to have access and receive details on the transition. Other items to consider during the transition period include rights integrations, DOI changes, production changes and testing, etc. Going into the transition with a clear plan, designated responsible parties, and consistent messaging to your community will help to ensure success.

Navigating the AI-Driven Future of Scholarly Publishing

MODERATOR:

Chhavi Chauhan

American Society for
Investigative Pathology

SPEAKERS:

Jay Patel

Cactus Communications

Jennifer Regala

Wolters Kluwer

George Currie

eLife

Daniella Thoren

Wolters Kluwer

REPORTER:

Maya Workowski

Wolters Kluwer

Over the past few years, there has been a long development cycle for artificial intelligence (AI). AI includes many iterations, such as machine learning, neural networks, deep learning, and now, generative AI (Figure). In this session, panelists discussed ways to navigate this ever-changing landscape and use AI in a productive and responsible way.

What is Generative AI?

Generative AI (Gen AI) is a word prediction engine. It figures out what words go best together using mathematics, not consciousness. There are several reasons to integrate AI into workflows; however, there are also several realities to be aware of when approaching AI.

Some realities of AI to consider:

- It cannot predict the future
- It amplifies biases
- Hallucinations exist
- Copyright issues exist
- Energy consumption is increasing (but technology will become more efficient and models will improve)

AI and Scientific Publishing

Even though these considerations exist, there are ways to work around them. For example, users can ask the model to use plain language, to cite sources, and for a specific format. Giving the model constraints such as these to adhere to gives less leeway for the model to take liberties.

Authors and editors can prompt AI to summarize a manuscript, check guidelines, generate keywords, or improve the readability of a text. Advanced prompting can

include role-prompting, few-shot learning, reflexion, and chain of thought.

Reviewers cannot put another author's confidential manuscript into a public, open-source large language model (LLM). This is an ethical breach due to the confidential nature of research. Therefore, when using Gen AI, transparency is key.

For publishers, transparency is also key. Author guidelines and reviewer expectations must be set up and accessible. This involves telling authors what is required and what the journal's standards are. Currently, many authors are not transparent with their usage of AI. One possible reason for this lack of transparency is fear of being retaliated against.

Additionally, when using AI, the model needs to be vetted, trusted, and closed. A "closed" LLM refers to what happens to information after it is used in a prompt. The information put into a closed model will not be added to the LLM's database of knowledge after the query is complete. Paid models, either financed individually or through an organization's license, are better for ethical constraints. The premium paid versions of many models give much more comprehensive answers than the free or low-cost version.

Speakers also suggested that in the future, LLMs need to be able to understand the strength of claims from the data they are ingesting. Every statement has evidence underpinning it, and understanding that will allow the model to create answers that are more aligned with how science works.

Writing Prompts for AI

AI tools are powerful for automating tasks, like manuscript screening, plagiarism checks, or formatting and referencing, but they lack the nuanced understanding humans bring. Humans add value in the forms of judgment and ethics, contextual understanding, and cultural reference, ensuring that AI outputs align with the principles of scholarly publishing—trust, integrity, and quality.

To highlight this, the speakers put a sample abstract into ChatGPT. The model did not interpret who the audience was, the outcomes, etc. This is why human usage of contextual understanding as well as clear, specific prompts, are key.

AI Ethics Primer

- Tip 1: Act with integrity. Follow a policy you agree with.
- Tip 2: Understand the underlying biases in AI.
- Tip 3: AI is not accountable; you are.

<https://doi.org/10.36591/SE-4803-06>

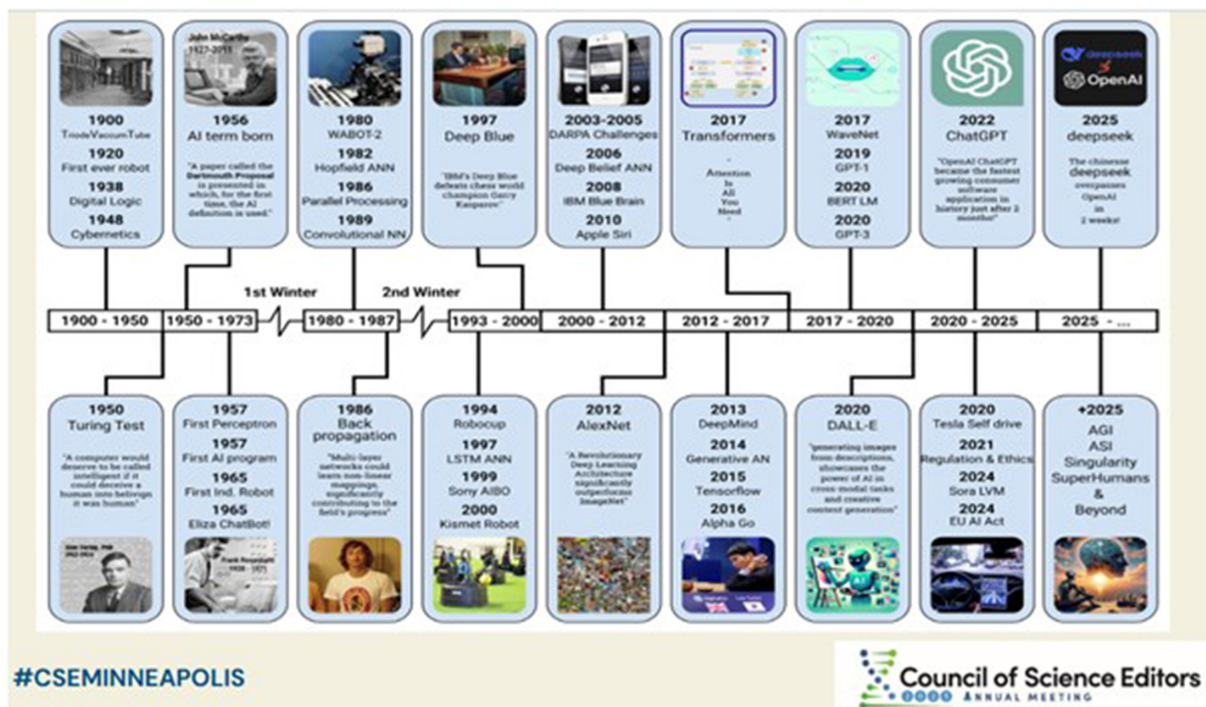


Figure. The most complete AI history timeline image covering the most important events since 1900 to 2025. Credit: Tarjomyar. Reprinted under CC BY-SA 4.0 license.

- Tip 4: Do not shame people for AI usage. Shame makes people not want to talk about it.
- Tip 5: Use/Share with AI responsibly. Be careful what you share. Before you give anything to an AI model, make sure you have permission to share it. You do not know what is going to happen to it once you enter it. Do not enter it into Gen AI if you would not post it online.

AI's Transformative Role in Scholarly Publishing

AI is transforming many of the precedents and workflows that exist in scholarly publishing. Here are a few major ways it is doing so:

- Transforming workflows from submission to publication
- Enhancing quality of language, structure, and analysis
- Raising questions of authorship, originality, and transparency
- Changing landscape

Future of AI in Scholarly Publishing

There are many practical uses for AI that would enhance scholarly publishing. For starters, AI can potentially address some of the accessibility issues that exist currently in publishing. It could also offer the potential for cross-platform standards, which would result in a consistent experience across publishers. Finally, it can also offer advanced translation to make scholarship more universal. Researchers could translate an article into their native language in order to focus on the literature without a language barrier.

Conclusion and Take-Home Messages

Professionals in the scholarly publishing industry do not need to be afraid to experiment with AI. You just have to do it responsibly and in an informed manner. Gather information about the model you are using before plugging information into it. Share your process for integrating AI into your workflows with others, and do not shame others for using AI. Following these tips will help you navigate the AI-driven future of scholarly publishing.

Integrating Mentorship Into Your Daily Work

MODERATOR:

Barbara Gastel

Texas A&M University

Rajnish Mehrotra*Journal of the American Society
of Nephrology*

SPEAKERS:

Erica GoodoffThe University of Texas MD
Anderson Cancer Center**Katie Duelm**

Texas A&M University Press

REPORTER:

Leslie Neistadt

Saint Louis University

In our work as scientific publishing professionals, many of us routinely serve as mentors—to authors, junior colleagues, new copy editors, and others. For this session, Barbara Gastel (a long-time mentor herself) brought together 3 experts to share their perspectives on how different types of mentoring can be integrated into our daily work.

Senior Scientific Editor Erica Goodoff works directly with faculty and trainees at The University of Texas MD Anderson Cancer Center on research proposals, grant applications, and other documents. With a background in liberal arts, she started her career as a managing editor at a small publishing house and now considers mentoring, both formal and informal, an important aspect of her role at MD Anderson. In working with authors, she aims to present the content as clearly as possible without suppressing the author's voice. She often edits in stages: substantive comments followed by line editing. Thoughtful querying can help authors focus the information in their papers.

Goodoff's department, the Research Medical Library, offers 1-hour workshops and presentations on various aspects of writing and publishing scientific articles, reminding authors that the department is always ready to assist them. With language, style, and scientific fields constantly evolving, the editors mentor each other to stay professionally relevant.

The Scientific Editing Internship through the MD Anderson Research Medical Library exposes students to the many responsibilities of scientific editors. Goodoff recognizes the potential barriers and costs inherent in an internship program but believes that investing the necessary time and effort in these students is worthwhile, allowing her to determine if they might function well as future employees.

She notes that thoughtful discussion with interns and new editors provides an atmosphere of psychological safety, which is crucial to learning good editing judgment.

Managing Editor Katie Duelm is a graduate of the Texas A&M Master's Program in Science and Technology Journalism, which Gastel coordinates. Duelm oversees all aspects of book production, including copyediting, design, and reviewing proofs with authors at Texas A&M University Press. She supervises interns, junior colleagues, and new copy editors. Mentoring these individuals through projects such as more straightforward scholarly monographs provides small and immediate boosts to their confidence. As they gain expertise, she allows them to work on bigger and more complex books. Duelm's interns have a desk in her office, which enables them to listen to and learn from her conversations with colleagues and authors and ask follow-up questions. As Goodoff does, Duelm sees internships as a pipeline to develop editors who might eventually join her team. Furthermore, she invites nonintern students to visit her workplace and learn what editors do. Inevitably, some students determine that becoming an editor is not a desirable career path, which is still a valuable insight.

Duelm advises mentors to exhibit grace when new editors make mistakes, as they certainly will. Praising accomplishments while offering gentle feedback allows interns and early-career professionals to both recognize their progress and acquire skills to apply to the next project. She stresses the importance of work-life balance to all mentees.

Journal of the American Society of Nephrology Editor-in-Chief Rajnish Mehrotra is a professor of medicine and head of the Division of Nephrology in the Department of Medicine at the University of Washington and the president of the International Society for Peritoneal Dialysis. He sees his editorial role as articulating a scientific vision for his journal, developing a culture of peer review to achieve that vision, and being accountable for the journal vision and culture. Mentoring team members helps them to fulfill that vision.

Adhering to the highest standards for data reporting and data sharing is critical. When overseeing the decisions of the Deputy, Associate, Junior Associate, and Visual Abstract Editors, Mehrotra asks 3 questions:

1. If the finding is true, does it represent a meaningful advance in our knowledge?

(Continued on p. 114)

<https://doi.org/10.36591/SE-4803-07>

For Style's Sake: Balancing Author Voice and Publisher Style in Scientific Manuscripts

MODERATOR:

Tricia Kershaw*Proceedings of the National Academy of Sciences*

SPEAKERS:

Peter J Olson*JAMA Network***Jessica LaPointe***American Meteorological Society,***Ketson dos Santos***University of Minnesota*

REPORTER:

Kevin Gladish*Journal of Graduate Medical Education*

What is the purpose of a style guide, and why do publishers invest so heavily in creating and enforcing them? This session at the 2025 CSE Annual Meeting in Minneapolis, Minnesota, examined this question as well as how to strike the right balance between uniformity of style and the individuality of an author's voice. The three speakers' perspectives—one as a publisher, another as a manuscript editor, and a third as an author—each offered unique experiences and expertise around what to do when a publisher's expectations meet an author's expression.

The Publisher's Perspective

The first speaker was Peter J Olson, whose experience as Freelance Manuscript Editing Coordinator at the JAMA Network offered unique insights into the intent behind style guides as well as how they can be used to best serve all parties involved.

First, why do style guides exist? And how can they serve a greater purpose than simply "having rules to follow"? One purpose is simply to create order, which helps to improve consistency, clarity, and accuracy, all of which ultimately helps with reader comprehension. Style guides also help to enhance a journal's reputation over time, aligning with publishing and industry standards while helping to establish a unique brand. They can also tailor a journal's content. One example is the *AMA Manual of Style's* list of common abbreviations, which allows for some to be used without expanding and defining on first use. These exceptions assume that many readers in the medical field will likely know what they mean. And

finally, a good style guide can save time, taking much of the guesswork out of the editing process.

Still, manuscript editors and authors will face challenges in applying style guidelines. For example, editors often have a limited knowledge of a journal's scientific content. Copy editors tend to be English majors who "fell backwards" into the scientific profession. (As the author of this summary, I can attest this is true, though it turned out to be a fall forward.) Or they may also be freelancers who shift between multiple style sources and could interpret certain rules differently than a publisher intended. Editors might also be uncertain about when to edit with a lighter or heavier hand. Conversely, authors often have limited knowledge about various style guides and limited time to learn about the differences among them. They also might not expect their article to be edited much beyond peer review and could have concerns that style-related edits will alter their intent or data.

Publishers can help editors by providing thorough training with realistic examples to assist in envisioning how guidelines can be put into practice. Careful use of language in the guide itself can help. Does *always* really mean *usually*? Supplemental guides can also be useful for tasks that fall outside of editorial style, such as XML coding and standard author query language.

Since language and practices change over time, updating a style guide often will help to ensure that authors and editors stay current with evolving trends and current practices. Publishers should aim to align with authorities in the field and reach out to experts when necessary. Simplifying style rules can also help to make a style guide more accessible. When reviewing a rule, publishers can reflect on its intent. Is that intent being served, or is the rule arbitrary? Publishers can also set expectations in the author instructions and in acceptance letters, addressing the level of editing that will occur at each stage of the process. Clear communication is key.

The Editor's Perspective

The second speaker, Jessica LaPointe, brought her experience as Managing Production Editor at the American Meteorological Society, where she oversees remote editing teams and production workflow. She focused on how style guidelines are put into practice, including training manuscript editors and managing communication with authors.

<https://doi.org/10.36591/SE-4803-08>

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She began by acknowledging that the publishing process can be both confusing and frustrating for many authors. Transparency is often the first and best way to mitigate these challenges. Authors, like anyone, enjoy being in the loop, so if publishers and editors make clear what they are doing and why, authors will be much more open to changes in their work. Having robust author resources available, including manuscript structure guidelines, formatting, clear examples, and reasoning behind the guidelines, can help move the paper faster through the publication process and minimize queries later. These resources should provide enough details and examples for clarity without overwhelming authors with too much information.

When training manuscript editors, it is important to consider how much time is available. If time is limited, or if copy editors are outsourced rather than members of an in-house team, some rules could be relaxed and nonessential ones could be reconsidered. Also, as terms change over time, it is important to be flexible as practices evolve.

When working with authors, editors should consider the author's point of view. They may have already been through a grueling peer-review process with multiple rounds of revision. Remember that, on some points, the author knows best. Editors should try to respect an author's expertise in deciding whether to stand by a style rule or to be flexible. At times, allowing deviations to a journal's style at an author's request can make more sense, both for the sake of accuracy and for maintaining positive relationships.

The Author's Perspective

The final speaker, Dr Ketson dos Santos, provided his perspective as an author and professor in civil, environmental, and geo-engineering, particularly regarding the challenges that teams of authors face when working in multidisciplinary fields. He has led research teams asking such diverse questions as: What is the probability of a building collapsing due to an earthquake? And what is the best model to describe blood flow in the brain? These questions require expertise from many different fields and involve different style expectations.

For authors, when adjusting writing style to different journals, it is helpful to first consider whether the paper is experimental research, theoretical research, or a multidisciplinary approach using both. Experimental research often requires a more rigid writing structure. Biomedical research, for example, often requires a very formal abstract (Introduction, Methods, Results, etc.), while theoretical papers tend to allow more flexibility. Authors from theoretical backgrounds may experience "culture shock" as they try to reformulate their reasoning to adjust to the abstract structure.

Another consideration is the type of article being submitted. Is it a research article, a technical brief, or a review article? Each of these has different structural and stylistic requirements that can vary further by field and by journal. Interpreting paper length requirements can also be a challenge, as some journals communicate these limits by word count, others by character count, and still others by the number of pages. A rule that sets a maximum of 10,000 characters, for example, can pose a difficulty when the manuscript includes several equations.

Author teams will often have different levels of writing experience among their members. Less experienced writers can be encouraged to look at journal style guidelines early, even before formulating a draft, to reduce the amount of rewriting later. To this end, guidelines should be clear, concise, and simple, not leaving too much room for complex interpretation. Finally, an author should know when to advocate for something that has been changed in the editing process, particularly when using technical terms. If the changes alter the meaning of the work or could confuse the target audience, an author may advocate more forcefully to include certain terms as written.

In summary, a good style guide can be of great help to editors and authors, rather than a hurdle to climb. Clear, concise, and transparent communication, along with thorough training, regular updates, and an appreciation for the perspectives of the publisher, the editor, and the author, can facilitate an editing process that leads to the best work possible for everyone involved.

Assessing AI Policies in Scientific Publishing: Are We Prepared for the Future?

MODERATOR:

Chirag “Jay” Patel

Cactus Communications

REPORTERS:

Gustavo Monnerat

The Lancet

Chhavi Chauhan

Samast AI
American Society for
Investigative Pathology, and
Women in AI)

Annette Flanagin

JAMA and JAMA Network

Heather Goodell

American Heart Association

REPORTERS:

Andrea Rahkola

American Academy of
Neurology

Tim Gray

JAMA Network

It could be argued that artificial intelligence (AI) and policy were the top two categories of conversation at the 2025 CSE Annual Meeting in Minneapolis, Minnesota; this session combined these categories for a look at the status quo of AI in science publishing. What once seemed a distant science publishing tool is now projected to soon be part of standard processing. Now is when the science publishing industry must work together to use AI to its full potential while implementing safeguards for research and peer review integrity.

Moderator Chirag “Jay” Patel introduced this session. Speakers Gustavo Monnerat, Chhavi Chauhan, Annette Flanagin, and Heather Goodell (Figure 1) covered AI application, moving through AI policies for authors, for peer review, and for meeting abstracts, and then theorizing on the future of AI in science publishing.

AI Policies for Authors

Gustavo Monnerat highlighted five key points from *The Lancet’s* guidelines for authors.¹ First, AI should be used to improve readability, not replace conclusions or data analyses, and must be overseen by a human. Second, transparency should include acknowledgment of AI use, the model, the version, the prompt used, and the specific sections where it was applied to ensure reproducibility of the results. Third, AI use includes restrictions. AI should never process any unpublished research to create interpretive comments. Fourth, AI poses opportunities to improve inclusivity and

protect research integrity. Fifth, AI policies and guidelines are evolving; *The Lancet* plans to update their guidance as a living document.

Monnerat discussed several examples of journals’ AI policies, from conservative (high detail) to liberal (less detailed) policies (Figure 2). Monnerat identified common elements among journals’ AI policies, including the requirement for authors to disclose use of AI, that authors have responsibility for accuracy, authors must understand risk of copyright concerns that come with AI use, and that authors must be aware of journal policies around the use of AI. In closing, Monnerat emphasized the intention to foster transparency.

AI Policies During Peer Review

Annette Flanagin referenced JAMA Network guidance on AI use during peer review.² JAMA Network has been “playing a lot of catch-up” and released multiple guidance reports on AI. Their guidance extends the use of AI tools to peer review with an explicit reminder of the confidentiality of submitted papers and the peer-review process. Flanagin noted, “our confidentiality policy *prohibits the entering of any part of the manuscript or your review* into a chatbot, language model, or similar tool.” JAMA Network reminds reviewers at invitation and includes a question at review submission as to whether AI was used, with precise instructions on what must be reported about AI use. From July 2023 through March 2025, 0.7% of JAMA Network reviewers reported the use of AI when preparing their reviews. The most common uses of AI described were for language, grammar, and checking methodology; Flanagin pointed out that the latter raises the question of whether they entered something they should not have.

Flanagin summarized a range of peer review policies regarding use of AI by leading scientific journals and publishers, from conservative (no use) to liberal (not permitting use in nonpublic models that cannot guarantee confidentiality) (Figure 3).

AI Policies for Meeting Abstracts

Heather Goodell acknowledged what many scientific publishing professionals have experienced: “we’ve been burned by our meeting abstracts before.” For many journals,

<https://doi.org/10.36591/SE-4803-09>

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Figure 1. Session speakers and moderator. From left to right, Annette Flanagan, Chirag “Jay” Patel, Heather Goodell, Gustavo Monnerat, and Chhavi Chauhan, posing for a photo in the session’s room at The Depot in Minneapolis, Minnesota. (Credit: Annette Flanagan.)

abstracts are published as a service to the conference and the field. Last year, during review of 8,500 submitted abstracts, the American Heart Association (AHA) used the Cactus Communications tool Paperpal Preflight for Editorial Desk for integrity checks. While only a few abstracts were flagged with a warning, there were additional issues with authors on several abstracts, as many as 30 or 40; most of these abstracts were systematic reviews or meta-analyses.

AHA emailed every flagged abstract’s corresponding author and asked for authorship to be verified.

The AHA now has AI policies for meeting abstracts. They adopted what has been applied to the journals for research writing (i.e., spellcheck is okay, but you must disclose it), added a disclaimer to the abstracts, and implemented the same policy for reviewers (i.e., do not upload confidential content to a large language model). Goodell emphasized, “we do not want to penalize early career researchers, but we are responsible for the research being published in the journals.”

The Future: For Authors, Meetings, Peer Reviewers, and Scientific Publishing

Chhavi Chauhan reminded attendees, “no one has a crystal ball,” as she imagined the future of AI policies for authors, for meetings, and for peer review in scientific publishing. Chauhan asserted the need for living guidelines and for transparency with detailed reporting before discussing the potential of The AI Scientist and the generation of AI data and images. The AI Scientist generates hypotheses, performs experiments, and produces results; it can create full research articles and has produced a peer review system.³ Chauhan noted that The AI Scientist could be used to create great volumes of submissions, and with a low cost, may have utility when funding is scant. The generation of AI data and images may be used to fraudulently enrich data sets but

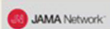
Journal	Policy	Specific guidance
Science	Conservative	“AI tools and versions must be disclosed. Authors are accountable for accuracy, plagiarism prevention, source citation, and bias review. Inappropriate use may lead to rejection. AI-generated images and multimedia require explicit editor permission.”
PLOS One	Conservative	“AI tools, validation, and impact must be disclosed. Authors must ensure AI-generated text is accurate, valid, plagiarism-free, properly cited, and reflects their ideas. Data fabrication or misrepresentation using AI is prohibited. Noncompliance may result in rejection, retraction, editorial notices, and notification to authors’ institutions.”
Lancet	Conservative	“AI can enhance readability and language under human supervision, with mandatory disclosure of model names, versions, and prompts. Use is limited to spelling and grammar checks in specific sections and must not process unpublished research.”
AHA journals	Moderately conservative	“Authors may use AI tools for writing if documented, taking responsibility for accuracy, validity, and originality. AI tools cannot be authors. Grammar and spelling tools are exempt. AI must not alter image data in figures.”
JAMA	Moderately conservative	“Authors must report AI tool, detailing name, version, manufacturer, use dates, and utilization description. For research, follow reporting guidelines, describe AI use in study design, address bias, and detail datasets, models, and evaluation metrics.”
Nature	Moderately Liberal	“Document AI use in the Methods section, except AI-assisted copy editing. AI-generated images are generally prohibited. Disclose non-generative AI tools for image manipulation in captions.”
NEJM AI	Moderately liberal	“Authors must disclose AI-assisted technologies and outputs, ensuring work accuracy, integrity, and originality. They should review AI-produced content to prevent errors or bias, ensure no plagiarism, and provide proper attribution. AI-generated material cannot be cited as a primary source.”
BMJ	Liberal	“Authors must transparently disclose AI usage, detailing technology, purpose, and application. AI cannot be an author; authors are responsible for accuracy and originality. BMJ may screen for AI content and reject or alter if inadequately declared. AI-generated content is not prohibited.”

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 Council of Science Editors
ANNUAL MEETING

Figure 2. Presentation slide with journal policies on AI use by authors. (Credit: Gustavo Monnerat).

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Assessing AI Policies in Scientific Publishing: Are We Prepared for the Future? 

AI use in peer review – journal policies

Journal	Policy	Specific guidance
Science	Conservative	"Use of large language models and other generative AI tools is not allowed. The reviewer is responsible for writing their own review"
PLOS One	Conservative	"reviewers should not upload submissions to web platforms, databases, generative AI tools, or other services."
Lancet	Conservative	"Reviewers should not upload the manuscript, or any part of it, into an AI tool as this may violate the authors' confidentiality and proprietary rights"..."reviewers should not upload their peer review comments into an AI tool"
AHA journals	Conservative	"Reviewers should not upload any part of the manuscript, its associated files, or reviewer comments to any automated assistive writing technologies and tools...Doing so would violate the confidentiality agreement between the authors and the journal"
JAMA	Moderately conservative	"Entering any part of the manuscript or abstract or the text of your review into a chatbot, language model, or similar tool is a violation of our confidentiality agreement....[if AI is used] as a resource during your review...provide a description of the content that was created [and the tool]"
Nature	Moderately conservative	"peer reviewers do not upload manuscripts into generative AI tools. If any part of the evaluation of the claims made in the manuscript was in any way supported by an AI tool, we ask peer reviewers to declare the use of such tools transparently in the peer review report."
NEJM AI	Moderately liberal	"Reviewers must maintain the confidentiality of the manuscript as outlined above, which may prohibit the uploading of the manuscript to software or other AI technologies where confidentiality cannot be assured."
BMJ	Liberal	"reviewers should preserve the confidentiality of the peer review process by not putting unpublished manuscripts that they are reviewing for BMJ Journals (or information about them) into publicly available AI tools where the security of the confidential information cannot be guaranteed."

#CSEMINNEAPOLIS 

Figure 3. Presentation slide with journal policies on AI use in peer review. (Credit: Annette Flanagin.)

can also be used in positive and progressive ways, such as accessibility initiatives. Use of AI tools for data analysis raises concerns, especially when there is no human check, that systematic reviews may become meaningless. Could scientific publishing lean into publishing and monetizing "dataset oceans" rather than research articles? There will be the question of data ownership. Creators now want to own their content and be rewarded. Chauhan asked, "will we think about giving rewards to authors or researchers? How would that change policies?"

For meetings and peer review, Chauhan posited a rise in AI-assisted submissions, increased reviewer burden, and a need to rely on tools to check for AI use. Submissions that look similar may become more common, and ownership/attribution will need to be carefully considered. It is time for scientific publishing to ethically integrate AI tools, not only to defend integrity but to assist with the most strenuous aspects of scientific review. Human review will always be necessary, but with the struggle to find statistical editors, AI could be used for a first pass at statistical review. AI may also be able to check citations to determine appropriate attribution, reducing the burden of long reference lists. Ultimately, Chauhan sees AI as an opportunity for the scientific publishing community to come together, agree on a baseline of AI policies, share use cases of AI, and think critically on the policies that should be instituted.

Session Q&A

Six questions were raised. To the first question of whether early-career researchers using AI Scientist to construct and submit a paper based on nonsense could be detected, panelist Annette Flanagin responded, "I'm not convinced we wouldn't know." The human touch on articles, discussion of submissions among editors, and the expertise of peer reviewers have continued importance. Experts know context better than internet-scraping AI. To the second question of whether the speakers expected any changes in lenient policies for peer reviewers in the case of articles that were already published as preprints, the speakers recognized the value of preprints, as demonstrated during the COVID-19 pandemic, and expressed hope that the next generation of peer review systems will have AI built in to assist reviewers and editors. To the third question asking the point of peer review if authors can use AI to complete the same peer review themselves, the speakers emphasized that good peer review evaluates novelty and uniqueness. To the fourth question on how implementing AI in peer review could be a prompt to evaluate what peer review is, the speakers reemphasized the importance of human touch in that a human will be needed to review AI reviews. To the fifth question about how policy around research

(Continued on p. 126)

Diversification and Decentralization of Peer Review

MODERATOR:

Tony Alves

HighWire Press

SPEAKERS:

Tony Alves**Daniela Saderi**

PREreview

Richard Sever

Cold Spring Harbor Laboratory

REPORTER:

Denise Kuo

JMIR Publications

The speakers collectively presented a vision for transforming scholarly peer review, moving from an historically insular and slow process, which they describe as a conversation between privileged colleagues, to a more open, diverse, and efficient system. The overarching theme is a move toward greater inclusivity, transparency, and adaptability in how scientific knowledge is vetted and shared.

Richard Sever's presentation, "Decoupling Peer Review," lays the foundational argument for separating the act of disseminating research from its formal evaluation. He critically observes that the traditional model, where peer review *precedes* publication, introduces delays, often stretching from months to years. This bottleneck impedes the rapid sharing of scientific breakthroughs. Sever introduces preprints as a solution: unpublished manuscripts shared almost immediately, bypassing the sometimes lengthy traditional review process. He traces the origins of this concept to arXiv,¹ established in 1991, which pioneered the idea of a nonprofit, open access server for scientific preprints. Building on arXiv's success, Sever highlighted the emergence of discipline-specific preprint servers, notably bioRxiv² (2013) for biological sciences and medRxiv³ (2019) for health sciences. The preprint platforms continue to grow, with bioRxiv and medRxiv collectively hosting over 350,000 preprints and attracting approximately 10 million views per month. Crucially, Sever notes that over 80% of these preprints are subsequently published in peer-reviewed journals, indicating their quality and eventual formal validation. The core goals of this "decoupling" are twofold: to accelerate scientific discovery and to stimulate the evolution of scholarly communication itself. By freeing dissemination from the strictures of prepublication peer review, preprints foster a dynamic environment for community discussion,

new forms of content verification, and a flexible approach to evaluation.

Complementing Sever's focus on the *what* and *why* of decoupling, Daniela Saderi's presentation, "Diversification and Decentralization of Peer Review: Community-led Preprint Review," delves into the *who* and *how*, particularly addressing issues of inclusivity and equity. Saderi directly confronts the inherent lack of diversity within traditional peer review, pointing out that senior editors, reviewing editors, and peer reviewers, often referred to as gatekeepers, are overwhelmingly male and predominantly from North America. This demographic imbalance raises serious questions about the fairness and comprehensiveness of the review process. A significant concern is the marginalization of early-career researchers (ECRs), who, despite often participating as co-reviewers, rarely receive formal recognition for their contributions, a phenomenon referred to as "ghostwriting."⁴ This exclusion of diverse voices, including those from underrepresented regions or with lived experience, undermines the richness and depth of scientific evaluation.

PREreview,⁵ the organization Saderi cofounded and leads, is presented as a direct response to these systemic issues. The platform functions as a preprint review hub, a resource center, and a convener, offering training programs focused on constructive and socially-conscious peer review. PREreview's open platform allows anyone with an ORCID iD to contribute feedback on preprints, which is then recognized and citable through the assignment of DOIs and CC BY 4.0⁶ licenses. Innovative initiatives like "Live Reviews" facilitate collaborative, interactive peer review that can directly inform journal editorial processes, demonstrating the vision of community-led, diversified, and decentralized peer review. While Live Reviews are valuable, their practical implementation for widespread use is limited by the challenge of scaling them effectively. Saderi's overarching message is that achieving such a transformative shift requires a concerted community effort.

Wrapping up the session, the presentation by Tony Alves, "Mapping the Preprint Review Metadata Transfer Workflows," provides a practical framework for how this evolving ecosystem of decoupled and diversified peer review can function seamlessly. Alves emphasizes the critical need for interoperability tools to connect the various components of this new scholarly communication paradigm. The presentation details the collaborative efforts between

<https://doi.org/10.36591/SE-4803-10>

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Europe PMC and ASAPbio to establish technical elements and best practices for metadata transfer, aiming to guide new preprint review groups and encourage adherence to evolving standards.

The ecosystem for metadata transfer is complex and multifaceted, encompassing content records, established scholarly communication standards, a diverse array of platforms (e.g., preprint servers, review platforms, commenting tools), metadata registration agencies, repositories, indexers, and various APIs. To ensure efficient and reliable data flow within this intricate network, several key protocols, schemas, and standards are vital. Much of the content covered in this detailed presentation was previously posted as a preprint,⁷ and shared through two articles^{8,9} published in *Science Editor*.

The speakers shared a comprehensive picture of a scholarly communication system in flux, driven by technological innovation and a desire for greater equity and efficiency. From Richard Sever's case for decoupling dissemination from evaluation through preprints, to Daniela Saderi's advocacy for diversifying and decentralizing peer review through community-led initiatives like PREreview,

and finally to Tony Alves's practical blueprint for ensuring seamless metadata transfer across this complex ecosystem, the message is clear: the future of peer review is open, collaborative, and interconnected.

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(Continued from p. 107)

2. Were the research methods valid?
3. Are the results applicable to the wider population of patients with the problem?

Mehrotra's editors and staff span the globe, and the absence of informal daily mentoring can be a challenge for clinicians and scientists who lack training in editorial operations. To promote engagement, his team has a weekly call in which they discuss the principles of peer review, decision-making, and how to always keep the larger context

in mind. Despite the generally hierarchical relationships, learning is both bidirectional and ongoing. Mentoring authors is another important responsibility of the entire team.

The 3 speakers offered individual and yet similar views of workplace mentoring. A willing and thoughtful mentor can markedly influence a mentee's career path. However, the mentor also benefits by sharing expertise, helping to develop new editors, and contributing to the editing profession. The mentor-mentee relationship can indeed be productive and gratifying for both parties.

The Path to Career Fulfillment: Essential Advice for Early-Career Professionals in Scholarly Publishing

MODERATOR:

Kristen Overstreet

Origin Editorial (now part of KGL)

SPEAKERS:

Rachel Taylor

Desert Rose Editorial, LLC

Andrea Rahkola

American Academy of Neurology

Erin Landis

Origin Editorial (now part of KGL)

REPORTER:

Patty Brady

American Society of Clinical Oncology

Starting your career in scholarly publishing is exciting, but figuring out your next steps can feel overwhelming. This three-speaker session offered early-career publishing professionals a clear roadmap to build a career aligned with their personal values and long-term goals.

The speakers went beyond theory. They shared practical examples and invaluable lessons from their own experiences. Attendees gained a broad overview of the scholarly publishing landscape, which extends far beyond roles like “managing editor” or “editorial coordinator.”

Attendees learned actionable strategies for the following:

- Identifying core values and skills and translating them into tangible career objectives
- Continuous learning and skill development, with a focus on vetting potential employers and cultivating a mindset of self-advocacy
- Developing leadership skills early on, regardless of whether a formal leadership role is the goal
- Building authentic connections and finding mentors who can offer guidance and open doors

The session also tackled challenges, such as imposter syndrome, work-life balance, and advocating for professional growth. This session equipped attendees with the tools

and confidence to proactively shape a future in scholarly publishing that is not only successful but also personally meaningful.

Rachel Taylor, of Desert Rose Editorial, LLC, opened the session with an overview of career options that exist within scholarly publishing. In addition to traditional scholarly societies and university presses, publishing professionals work for commercial academic publishers, open access journals, and governmental organizations. Editorial service companies also play a vital role in providing copyediting, typesetting, graphic design, indexing, and rights management, among other publishing functions.

Taylor encouraged attendees to evaluate potential employers by considering crucial factors that impact long-term personal satisfaction and growth. She recommended exploring whether a potential employer shows commitment to professional development or allows for lateral movement across departments. Job seekers should also consider whether the employer provides opportunities to lead special projects or welcomes proposals to create projects of interest. Are there clear promotion paths and other opportunities for growth?

Next, Taylor outlined essential roles within scholarly publishing, loosely grouped into five areas: author services, peer review management, production and design, technology and ethics, and sales and business strategy. Author service roles focus on supporting authors through the submission and publication process, including study design, translation and writing services, manuscript management, and illustration. Peer review management encompasses roles from editorial assistants to managing editors who orchestrate the peer-review process from submission to acceptance.

Production and design services include professionals ranging from copy editors and typesetters to graphic designers and technical editors. Technology and ethics services involve platform development, UX design, managing open access, and upholding industry ethical guidelines. Finally, those working in sales and business strategy roles include account managers, marketing

<https://doi.org/10.36591/SE-4803-11>

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professionals, operations managers, business development, and data analysts.

Taylor also spoke about the pros and cons of contract work. Contracting can be an appealing option for both employer and consultant and may fill a need related to shorter term projects, hiring restrictions, scope of the project, or a need for niche expertise. She highlighted advantages of schedule flexibility, the ability to work with a diverse array of clients and projects, potentially higher hourly rates, and greater control over one's workload and work-life balance.

However, she also presented several cons, including the absence of traditional employer-provided healthcare and retirement benefits, the inherent inconsistency of income, and the added burden of self-employment taxes. She closed by encouraging attendees—whether early career or years in—to keep these considerations in mind to design a unique career that works best for them.

The second presenter, Andrea Rahkola, from the American Academy of Neurology, shared insights from her own journey as an early-career publishing professional from temp to manager. She emphasized the importance of self-advocacy, urging attendees to take initiative in shaping their professional trajectory. Rahkola encouraged attendees to create a portfolio detailing specific projects, measurable successes, and demonstrated abilities. She said to "network EVERYWHERE and keep track of your contacts."

As you track your accomplishments, it is equally important to actively promote what you can offer. To increase visibility, Rahkola suggested volunteering for interesting projects and being active in professional communities such as CSE. Also, if you can propose a project that benefits both you and your employer, it allows you to pursue something you are interested in, while providing clear value to your organization—a win-win.

She recommended keeping an eye on shifting economic and geopolitical environments that may affect jobs and

research priorities. Consistently track job opportunities, industry developments, and salary trends, and save job descriptions that appeal to you. Rahkola urged attendees to "identify what interests you and pursue it!" (Figure)

Following Rahkola, Erin Landis, with Origin Editorial (now part of KGL), turned the discussion toward leadership skill development, making the case that everyone can benefit from acquiring these skills early, regardless of their professional goals. Landis underscored the importance of authenticity, encouraging leaders to act with integrity and express genuine interest in their teams. It is also important to show empathy, understanding, and support for team members' needs.

Creativity in a leader, she proposed, fosters innovation and encourages out-of-the-box thinking within teams. Landis urged attendees to begin cultivating these leadership skills early in their careers. She suggested taking initiative on projects, even if they seem minor, or volunteering to lead a small team or subcommittee to start developing and practicing these skills.

A particular piece of advice from Landis that had heads nodding around the room was to recognize and embrace "imposter syndrome," the tendency to feel self-doubt in one's skills or role. She encouraged the audience to acknowledge their insecurities, saying that doing so leads to greater authenticity, trust, and resilience in leaders, which in turn builds a stronger team.

Finally, Landis advocated developing expertise in a chosen niche. By becoming the go-to person for a specific area—be it a certain technology, a type of content, or a specialized process—professionals can differentiate themselves from their peers and add significant value to their organizations. Having a deep understanding and particular skill set can position them for leadership roles in that domain.

Together, the three speakers offered a practical guidebook for early-career professionals aiming to build meaningful, resilient, and fulfilling careers in scholarly publishing.

DEIA Implementation Resources for Editors: An Interactive Session for Building a DEIA Action Plan

REPORTER:

Erin Landis

KnowledgeWorks Global Ltd.

This interactive session focused on equipping editorial staff and journal editors with practical tools and frameworks to implement Diversity, Equity, Inclusion, and Accessibility (DEIA) initiatives. The organizers acknowledged that while the current political climate in the United States complicates DEIA work, journals should not be deterred from their efforts to make the research process, including scholarly publishing, more diverse and inclusive.

One of the key resources presented was the "Focused Toolkit for Journal Editors and Publishers: Building Diversity, Equity, Inclusion, and Accessibility in Editorial Roles and Peer Review,"¹ an expansion of the Toolkits for Equity Project² from the Coalition for Diversity and Inclusion in Scholarly Communications (C4DISC).³ C4DISC works with organizations and individuals to build equity, inclusion, diversity, and accessibility in scholarly communications. The fundamental premise of the Focused Toolkit is that editors can play a crucial role in broadening representation and facilitating meaningful change in scholarly publishing.

The toolkit outlines five core areas of action. First, editors can promote an inclusive culture and mission by drafting DEI statements, leveraging organizational resources, encouraging data sharing, and including diverse individuals in editorial processes. Second, collecting and reporting demographic data is recommended, taking care to protect anonymity. Editors should gather baseline data, regularly report findings, and reassess their efforts, using methods such as manuscript submission tracking and external surveys. Third, recruiting through active outreach and open processes enables editors to focus on characteristics and strengths rather than solely on accolades, incorporating open calls for participation. Fourth, offering reviewer

learning tools and implementing coreviewing practices can provide accessible learning resources and facilitate mentorship programs for peer review. Lastly, fostering equitable peer review involves encouraging bias awareness training, promoting transparent reporting standards, and exploring diverse peer review methods.

Another resource highlighted was the American Psychological Association's (APA) Equity, Diversity, and Inclusion (EDI) Toolkit for Journal Editors,⁴ which released its second edition in January 2025. This toolkit includes 45 specific actions to enhance EDI in journals, such as including local collaborators as coauthors, adding statements on community involvement (as exemplified by the journal *Autism*), and prompting authors to provide detailed descriptions of their research participants.

The interactive segment of the session focused on developing actionable DEIA plans using a DEIA Action Plan Framework (Figure 1), which includes five steps.

1. **Assess.** This step requires users of the framework to consider how the opportunity statement aligns with the organization's field or publication, as well as identify existing policies, practices, and initiatives already in place.
2. **Identify.** In this step, users identify two to three actions, along with a time frame, to achieve both short-term and long-term goals. This is followed by a discussion of the challenges and barriers that may emerge, along with solutions to address them.
3. **Collaborate.** Obtaining buy-in from various stakeholders for the implementation of DEIA initiatives is crucial. In this step, users identify key players and strategies to secure their buy-in.
4. **Communicate.** In this step, users of the framework develop a communications plan, considering how and when DEIA efforts will be announced, as well as how progress will be communicated.
5. **Reevaluate.** In the final step, users determine how they will measure progress, define success, and hold themselves accountable.

<https://doi.org/10.36591/SE-4803-12>

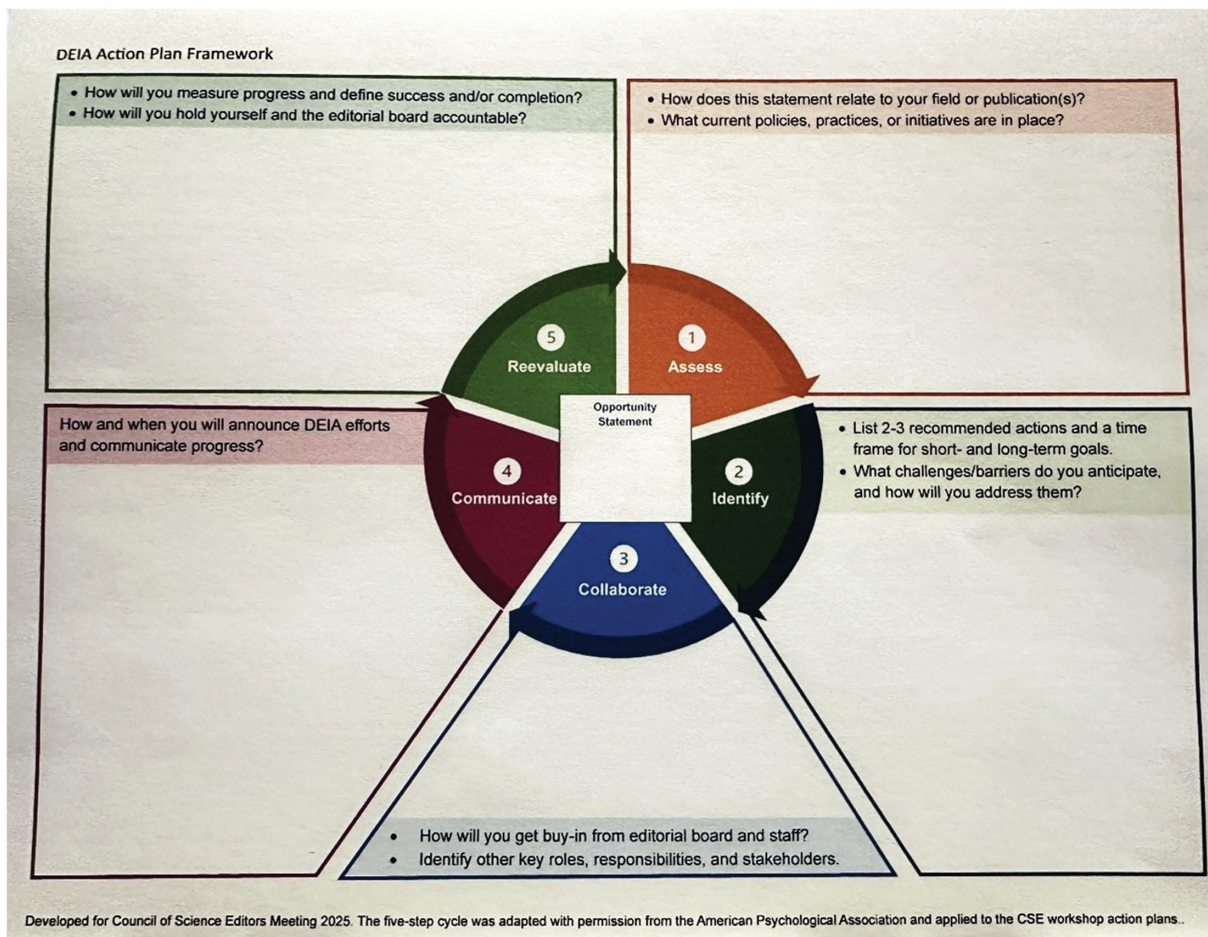


Figure. A DEIA Action Plan Framework, adapted with permission from the American Psychological Association.

Participants were grouped together at tables and, with the support of a session facilitator, used the framework to discuss the following “Opportunity Statements”:

- **Editorial Leadership.** Build an inclusive culture by shaping the journal's mission and/or improving representation in editorial leadership.
- **Reviewers.** Expand the reviewer pool and create pathways for reviewer engagement.
- **Authorship and Content.** Adopt equity-seeking submission standards for authors to promote more inclusive and representative content.

Key takeaways from the session highlighted that effective DEIA implementation in academic publishing necessitates multifaceted approaches that address culture, processes, and systemic barriers. Success relies on having concrete frameworks, organizational support, and the understanding that meaningful change demands persistent effort across various levels of the publishing ecosystem.

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Data Requirements and Responsibility : Panelists Discuss Sharing the Load

MODERATOR & SPEAKERS:

Shari Leventhal

American Society of Nephrology

SPEAKERS:

Shannon Farrell

University of Minnesota

Jenny Peng

Oxford University Press

Duncan MacRae

Wolters Kluwer

Emma Shumyeko

The National Academy of Sciences

REPORTER:

Jennifer Parresol

American Society of Civil Engineers

Sharing and standardizing data provides many benefits to research and readers. With this comes challenges within workflows and legal and ethical consideration.

Standardizing data across the board leads to better discoverability, along with enhancing open access compliance, improving metadata quality, and connecting stakeholders. To move toward standardization of various constituents, journals, authors, and editors need to work together to improve adherence to data standards and requirements. This may include cross-industries collaboration to harmonize data sharing workflows, as current workflows between journals and repositories are often at odds, inhibiting curation.

With data sharing and standardizing come challenges in not only preparing data for sharing, but in the time it may take, which could require significant efforts. Cost can also come into play. The average yearly cost for data management systems (DMS) across institutions is \$750,000, whereas the average cost per funded project is \$29,800, with smaller grants being significantly less (Figure 1).

Funding is just one of the things to consider for data sharing and standardizing for both authors and publishers. Legal and ethical compliances, which may include sensitive personal data that could be subject to regulations, would

What about the costs of data sharing?



\$750,000

Average yearly cost for DMS for all institutional categories

including the library, IT, research office, and other institutional institutes and centers that have DMS capabilities



\$29,800

Average per funded project cost to researchers. On average, 6% of grant award went to DMS, but this was 15% for smaller grants (<\$300k)



Realities of Academic Data Sharing info & reports:

<https://www.arl.org/realities-of-academic-data-sharing-rads-initiative/>

Figure 1. Costs of data sharing.

need to be examined. Data integrity ensures that shared datasets are complete and accurate. It is important to have trusted safe repositories for authors to upload their data.

How do we get closer to moving toward standardizing? With some best practices, outlined below (Figure 2):

- **Data Policies.** Establish clear data policies for journals.
- **Data Citations.** Include data citations with persistent identifiers in article metadata.
- **Data Availability Statements.** Integrate human and machine-readable data availability statements in published articles.
- **Data and Materials Sharing.** Adherence to policies requiring public sharing of data, materials, and associated protocols.
- **Enforcement.** Verifying data statements and usability.
- **Policy Clarity.** Avoiding vague or inconsistently applied mandates.
- **Resource Constraints.** Equitable access, especially for researchers in the Global South.

<https://doi.org/10.36591/SE-4803-13>

(Continued on p. 128)

Why Startups Find the Academic Ecosystem Exciting

MODERATOR:

Chirag “Jay” Patel

Cactus Communications

SPEAKERS:

Ginny Herbert

AIP Publishing

Jessica Miles

The Informed Frontier

Will Schweitzer

Silverchair

Dustin Smith

Hum

Tim Vines

DataSeer

REPORTER:

Denise Kuo

JMIR Publications

The panel discussion moderated by Jay Patel focused on how the academic publishing industry, traditionally dominated by a few established players, is now experiencing a dynamic influx of startups eager to address its inherent inefficiencies and unmet needs. The new ventures aim to revolutionize research workflows, leverage emerging technologies, and foster more effective partnerships between researchers and publishers. The core questions are whether these startups can truly reimagine traditional processes, whether established players will embrace collaboration or investment in them, and ultimately, if they can seamlessly integrate technology into publishing workflows to solve academia’s enduring challenges. The discussion delved into the motivations behind individuals joining this entrepreneurial wave, the unique challenges startups face in this ecosystem, and strategies for navigating resistance to change and securing vital funding.

The motivations driving individuals into the academic publishing startup sphere are deeply rooted in a desire for impact and personal fulfillment. For Will Schweitzer, an early school paper sparked his interest, leading him to find more reward in publishing than teaching English, driven by a profound sense of contributing to the scientific enterprise. Dustin Smith, a “trailing spouse,” found his niche by spinning out Hum from Silverchair, motivated by a drive to solve problems and a desire to respond positively to the “fear” and “threat” often associated with industry disruption. Ginny Herbert, who began her publishing career at the front desk, remains dedicated because she believes the products created in this space can “change the world through knowledge creation and dissemination.” Tim Vines,

initially on a science track, discovered his true calling as a managing editor, finding work that aligned with his style and personality, allowing him to become an expert in a specific domain. Jessica Miles, with a science background, sought more variety in her work, finding it in the dynamic startup environment. This collective motivation highlights a deep belief in the industry’s potential and the significance of peer-reviewed studies.

For those entering the startup space, passionate commitment is only the beginning. Launching and sustaining a startup in academic publishing presents significant challenges, described by a panellist as akin to “Hunger Games” or “Survival” due to the resource-scarce nature of scholarly communication. While a high volume of activity and available funding in certain sectors might seem ideal for startups, finding a genuine “product-market fit” is exceptionally difficult in this specialized domain. Startups often struggle to solve problems that potential customers have not explicitly identified or do not yet value enough to invest in. Funding constraints are a significant hurdle; only about 10% of industry spending is allocated to technology, resulting in limited capital availability. Early-stage funding often relies on friends, family, or angel investors due to the extended timeline for return on investment. Convincing customers, who typically operate with tight budgets, to allocate funds to an unproven idea is a constant struggle, with only a few stakeholders willing to take that leap. Products that demonstrate clear cost-saving benefits or resource reduction for stakeholders tend to have an easier path to securing funding. For customers unable to directly financially support startups, engagement through product trials, demos, and providing valuable feedback becomes a crucial, nonmonetary form of support.

Overcoming resistance to change is another paramount challenge. From a startup perspective, learning from customer feedback and modifying products, or pivoting, should be viewed as a positive and essential aspect of development. The method of product delivery is also critical; it must align with customer preferences. Publishers, in turn, can learn from startups’ focus on value by reassessing how they provide value and considering internal innovation or engagement with startups. The decision-making process for engaging with a startup often requires involving multiple stakeholders, adding layers of complexity. Successful integration of new solutions demands a rigorous, research-question approach: formulating a hypothesis, dedicating

<https://doi.org/10.36591/SE-4803-14>

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Figure. Session moderator Jay Patel (standing) with panelists (left to right) Will Schweitzer, Dustin Smith, Ginny Herbert, Tim Vines, and Jessica Miles. (Credit: Jessica Miles.)

specific time for testing, and meticulously measuring outcomes. This systematic approach, coupled with effective communication planning (analogous to a technology rollout) and drawing on change management principles like Kotter's 8 Steps,¹ is vital. Building credit and trust in the process involves reflecting, taking responsibility, and transparently communicating when something is not working, then demonstrating adaptability and commitment to continuous improvement.

Looking ahead, the panelists cited current funding constraints, particularly those impacting Gen-AI related products, as posing a threat to future innovations. This raises the question of whether more talent will migrate from academia and traditional academic publishing to spearhead new startups. The advent of artificial intelligence (AI) could be a significant disruptor, potentially becoming the new reader of scholarly content. This opens doors for new subscription models tailored for AI readers, requiring specific data formats and delivery methods, potentially fostering a conducive environment for startups to fill these emerging needs. While AI provides a foundational layer for innovators, allowing for faster product creation, human involvement remains crucial for sales, marketing, and distribution. Panel members referring to Will Schweitzer as a

"mafia don of distribution" elicited a laugh and underscored the continued importance of human networks.

Conversely, well-established, long-running organizations are inherently ill-suited to operate like startups. The core ethos of a startup involves "holding ideas really loosely," constantly seeking real-world feedback, and being comfortable with failure, iteration, and continuous learning. As Dustin Smith points out, this requires an ability to absorb "cringe" and embrace being wrong. A common pitfall for new innovators is underestimating the difficulty of gaining stakeholder buy-in. Focus is critical for effective resource allocation. Tim Vines' adage, "'Just' is a four-letter word," highlights that perceived simple solutions are rarely easy in practice. The most promising opportunities for startups arise when a current pain point or inefficient process is actively consuming a customer's time or money, indicating a clear, valued problem to solve. Jessica Miles emphasized the importance of "intentional experimentation," where even failures provide valuable information to guide future adjustments, ensuring every effort contributes to progress.

In conclusion, the academic publishing landscape is undergoing a profound transformation, and it will benefit from an entrepreneurial spirit aiming to inject efficiency, innovation, and greater accessibility into scholarly communication. While startups in scholarly communication are fueled by a strong desire to contribute to knowledge dissemination and address long-standing challenges, they face significant hurdles in securing funding and overcoming resistance to change. Their success hinges on their ability to identify truly valued problems, pivot rapidly based on feedback, leverage strategic partnerships, and continuously adapt to a dynamic technological environment, particularly with the rise of AI. The future will reveal whether these agile newcomers, in collaboration with forward-thinking established players, can ultimately democratize access to research and seamlessly integrate technology with publishing workflows.

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Journal Responses to New Federal Requirements for Public Access to Scientific Research

REPORTER:

Lindsay Fischer

AORN

At the May 2025 CSE Annual Meeting, held in Minneapolis, Minnesota, three speakers presented on the federal government's push to require open access (OA) practices and how researchers and publishers are responding to these changes.

The Move Toward Open Data

The first speaker presented on the Office of Science and Technology Policy (OSTP)'s guidance to make federally funded research freely available.¹ The "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research" memorandum (also known as the "Nelson Memorandum"), issued in 2022, represents a requirement to make taxpayer-supported scientific data, along with peer-reviewed research, freely available.¹ As this speaker noted, the Nelson Memorandum signaled a shift in how the Federal government defines data. Namely, "scientific data" now includes the factual material needed to validate and replicate research findings. The newfound emphasis on replication has left scientific publications grappling with what, exactly, must be shared to enable replication.

He noted that digital materials, which include the code needed to analyze the results, the data that underlies results, and an explanation of how the findings were achieved (e.g., a Methods section with preregistered protocols) are considered factual materials needed to replicate findings. "These are the items that other researchers will need to conduct the study again," he said. "This means that items like digital stimuli and protocols will need to be available in a manner that they have not been before."

In comparison, other items such as notebooks, preliminary analysis, case report forms, drafts, plans for future research, peer reviews, communication with colleagues, or physical objects or materials (i.e., laboratory specimens, artifacts, and field notes), are not considered necessary factual materials.

However, while the Nelson Memorandum represents a united push toward transparent, available scientific data, an analysis of government agencies showed a wide variability in how access to data and research outputs will be handled.² While all agencies assessed in this preliminary analysis ($N = 9$) will require data management and sharing plans (DMSP), none had publicly available DMSPs at the time of analysis; only 33% ($n = 3$) had peer-reviewed DMSPs, and only 33% ($n = 3$) had a mechanism to enforce compliance with the DMSP.² Finally, only 44% ($n = 4$) had policies that outline what research outputs are needed to validate and replicate findings.²

"Several, but not all, federal agencies are planning on evaluating the DMSPs as part of the scored criteria of grant applications," he said. "In addition, several, but not all, agencies are expanding their definition of 'data' to better align with the Nelson Memorandum."

The speaker concluded his talk by sharing survey results on researchers' perspectives on OA as a concept. Researchers were asked for their opinions on open science practices, along with their perceptions of what their peers think. Notably, the findings demonstrated a gap between individual attitudes and perceived collective attitudes; most respondents believe that open science is favorable—yet doubt whether their colleagues feel similarly.

"There are two possible explanations for this result," he said. "The first is that we don't have a representative sample from the research community, and that they are more open to data sharing than their peers are. The alternative explanation is that the scientific community is very open to data sharing, but that individuals still feel that their beliefs are a minority. With such a belief that you are a minority, it becomes difficult to act on those ideals, which can reinforce the perception that sharing is not widespread."

In conclusion, the move toward open data is becoming increasingly mainstream. The key focus now for scientific publications is to make sure that data sharing efforts are grounded in the best practices outlined in the FAIR (findable, accessible, interoperable, and reusable) principles and the ethical standards outlined in the CARE (collective benefit, authority to control, responsibility, and ethics) principles.

Revising Current Business Models

The next speaker represented a fully OA publishing organization, where he focuses on external relations and

<https://doi.org/10.36591/SE-4803-15>

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advocacy. A significant part of his role involves traveling to Washington, DC, to advocate for research funding.

He noted that there has been a global decline in research funding and library budgets, alongside growing pressure on public institutions to control costs. Simultaneously, there is increasing interest in alternatives to traditional peer review, such as preprints and postpublication reviews, as well as broader open science initiatives like open data, open code, and open peer review.

"Geopolitical turbulence is affecting research collaboration and causing unpredictable regulatory effects in these key publishing markets," the speaker said. "Researchers are prioritizing open science to drive research efficiency and impact and are exploring new ways of disseminating their research alongside journal publications."

As a result of these evolving priorities, the publishing industry is facing new market challenges. In the United States, it is still unclear how the executive and legislative branch measures will impact grant funding. Publishing houses are not sure of the role that the OSTP will play, or how immediate public access to federally funded research will look.

"It's still an open question as to what role the Office of Science and Technology Policy will play in the second Trump administration," he said. "The OSTP in the first Trump administration was largely in favor of OA; they proposed the ideas that the Biden administration's OSTP put into guidelines in August 2022 as the Nelson Memo. However, the OSTP in the new Trump administration is more focused on technology—especially artificial intelligence—than on science."

In response to these changes, publishers should consider the cost efficiency, scalability, and public value of different OA models. There are several different models in practice. For example, a hybrid model is one in which individual articles are fully accessible. A green model is one where authors can deposit their articles in an institutional repository and where preprint or postprint versions are freely available. A diamond model (also known as platinum) is one in which journals are free to access, and there are no article processing charges—this is limited by a dependency on consistent funding.

At the speaker's organization, Gold OA is considered the most effective means of disseminating research. In this model, articles are made freely available online immediately and authors typically pay a processing charge. Regardless, he noted that, "as researchers' and institutions' needs evolve, business models also need to evolve to adapt to the policy environment to support researchers, libraries, and institutions."

To that end, the organization continuously revises its business models to enable researchers to publish their research OA. For example, they offer a flat fee, uncapped

model for research-intensive institutions that want budget predictability, as well as discount-based plans for less research-intensive institutions. According to the speaker, his company's success exemplifies the viability of the Gold OA model. "Scientific and academic OA publishing can be done with high quality, at scale, and with a strong focus on researchers' needs," he concluded.

Economic Uncertainty Looms

The last speaker represented a self-described "small, but mighty" publisher known for its diverse journal portfolio. This publishing house features a wide breadth of topics across their 41 journals, ranging from New England cultural history to brain sciences. They also boast significant growth in recent years; they are currently publishing 40% more articles than they were before the COVID-19 pandemic.

Since 2010, they have steadily shifted their business model towards OA. Whereas, 15 years ago, their journals were almost exclusively subscription-based or hybrid models, today only about half of their journals remain subscription-based. The rest operate under OA models, primarily Diamond and Gold OA.

The publishing house is already compliant with the Nelson Memorandum, as all authors are permitted to upload the author accepted manuscript in a noncommercial repository. However, despite this process, uncertainties remain. For instance, it is unclear whether increasingly available manuscripts will lead to a high volume of subscription cancellations. Moreover, for certain journals, especially in the arts and humanities, a transition to OA will be difficult. Most of these journals rely heavily on subscription models. It is also unclear what represents a "reasonable" publication cost.

Finally, as the speaker pointed out, the transition to OA could lead to unforeseen equity concerns. If only the well-funded researchers can afford publication fees, valuable research may go unpublished. If small publishing houses collapse, it could destabilize the research ecosystem. "In the short term, we have done okay," he concluded, "but in the medium-to-long term, we anticipate challenges."

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Increasing Article Reach Off the Page: Promoting Scientific Research to a Wider Audience

MODERATOR:

Sarah E Wright

American Veterinary Medical Association

SPEAKERS:

Emilie Gunn

American Society of Clinical Oncology

Claire Neumann

American College of Gastroenterology

Meredith Pond

BioOne

REPORTER:

Jessica McEwan

Entomological Society of America

As most CSE members can attest, science is under pressure from misinformation and seismic changes in political priorities. And, while most of our publishing activities focus on the specialists and practitioners in our specific fields, having the tools to communicate important findings to a wider audience has never been more important.

Following the awards luncheon on the final day of the conference, Sarah E Wright of the American Veterinary Medical Association moderated a session titled “Increasing Article Reach Off the Page: Promoting Scientific Research to a Wider Audience.” The speakers covered three methods to increase audience reach, with a bonus communication tool described by the moderator at the end.

First, Claire Neumann of the American College of Gastroenterology introduced the concept of the visual abstract (VA), a pictorial representation of the main findings or most important message of an article. She provided a brief history of VAs, starting in the 1970s with multi-language journals and ending with founding Creative Director of Annals of Surgery Dr Andrew M Ibrahim’s Visual Abstract Primer in 2016.¹

Neumann explained that a VA has the power to maximize an article’s usability on social media, since they are sized for sharing on LinkedIn, BlueSky, and other social media platforms. She also described the ideal “3-Panel Format” for simplicity. This structured format introduces the context or first point within the first third of the VA, the methodology or second point in the center, and explains the main outcomes or the final point on the right (Figure 1).

<https://doi.org/10.36591/SE-4803-16>

Neumann described several hurdles involved in adopting VAs, explaining that since the VA is primarily a tool that promotes the full article, editors should take care to avoid generating overly positive images that leave out important limitations or null outcomes. Since VAs are consumed quickly, editors should also be careful not to develop overly complicated or cluttered VAs that obscure the meaning. The time and cost of creating and reviewing VAs, as well as how copyright applies to the overall VA and the included images and information, must also be considered.

Next, Emilie Gunn of the American Society of Clinical Oncology discussed plain language summaries (PLS), which as the name suggests, are concise article summaries that cut out the jargon and use concise sentences to convey the most important points. Emilie stressed the importance of knowing and tailoring the PLS to the targeted audience, whether it be nonspecialist physicians, those for whom English is not the first language, reporters, or the public.²

Gunn provided interesting information regarding the effectiveness of PLS, citing one hematology study that found the required reading level for the average PLS was university level or no different than the article itself. She suggested that the author of an article may not be the best person to write a summary, since their deep knowledge of the research may make it difficult for them to distill it to the level needed. Before getting started with a PLS program, editors should identify the intended audience, decide who will write the summaries, what will be included, if a template will be used and whether the PLS will be part of the article or standalone.

The final speaker was Meredith Pond of BioOne. Pond explained that early-career author awards help researchers build their professional profiles, increase a journal’s visibility and impact, and demonstrate an organization’s commitment to supporting emerging voices. Celebrating an author’s achievements, Pond explained, allows the organization to foster stronger relationships with authors while reinforcing its reputation as a champion of the good work done by scientists.

Once she finished explaining the benefits of an awards program generally, Pond described BioOne’s Ambassador Award, which rewards authors who demonstrate talent in translating their research to plain language. Nominees are

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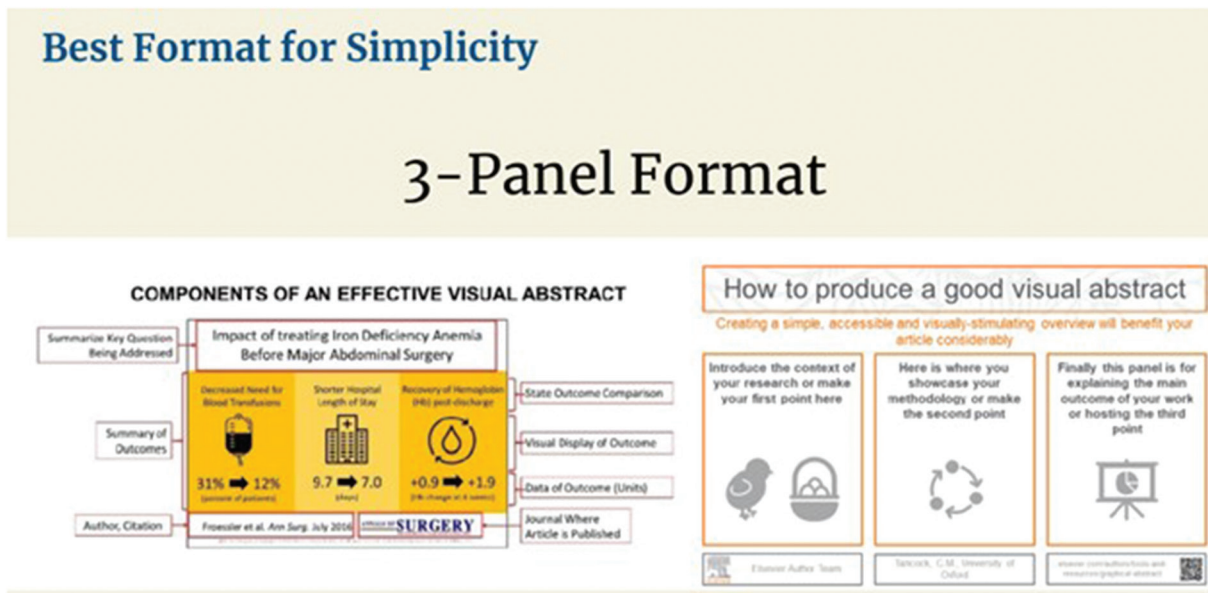


Figure 1.3 Panel format for visual abstracts.

asked to submit a response to the question “How does your research change the world?” Pond covered the rich and creative ways that researchers can discuss the impact of their findings [from written essays to video] to bring science to a diverse audience. This was a great segway for moderator Sarah Wright to return to the podium to describe her BioOne Ambassador winning work and podcasting for the American Veterinary Medical Association.

Wright's passion for coaching authors on communicating their science through podcasting was evident as she spoke. She explained that it is especially impactful for an audience to hear directly from a researcher about their work. In addition to providing practical advice about the things that need to be in place to record a podcast, like subscribing to a hosting platform, writing an episode and drafting questions for interviewees, creating social media accounts,

Podcasting in Scholarly Publishing

#CSEMINNEAPOLIS

General Workflow



Figure 2 Podcast workflow.

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and obtaining needed equipment, she presented a slide of the general podcast workflow (Figure 2).

As with all the communication media presented in this session, Wright stressed the importance of setting a goal and knowing your intended audience. When she helps an interviewee prepare for a podcast, she often asks them how their research findings will advance veterinary medicine or the clinical relevance of their work, so they can focus on communicating that message clearly. As a final thought, she warned attendees to be thoughtful about advertising and avoid pairing a podcast with ads for a relevant product or service.

For me, this was one of the most interesting sessions at CSE. I appreciated that the speakers provided their own real-world experience with audience expanding communication tools: VAs, PLS, awards, and podcasts. Their practical advice included similar takeaways: know your audience, adapt the

(Continued from p. 101)

at all, flawed or fraudulent data must be corrected. The panelists acknowledged that submission systems are often not built for fraud prevention and called for more proactive tooling to flag patterns in reviewer behavior and author metadata.

In summary, the session provided a comprehensive, nuanced view of current challenges and emerging strategies

(Continued from p. 112)

based on statistical models will be affected by AI, the speakers acknowledged the need for the full dataset for an AI review to be effective, that a human will need to check the results of an AI review, and that there is great potential in AI being used to compare a manuscript with the study protocol and preregistration. To the final question of the value, the speakers reiterated that questions of whether something is truly important will always require a human editor to answer.

communication for that audience, and think strategically about who is best suited to prepare and deliver the message. In some instances, the audience may benefit from hearing directly from the author and in others, the author may not be best equipped to distill their research and cut out the jargon. Thoughtful planning and learning from fellow CSE members can make adopting these methods easier and more effective.

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in maintaining research integrity. Across all talks, a common theme emerged: scientific integrity is best protected through collaboration, transparency, and unwavering attention to data accuracy.

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Scholarly Communications in a Rapidly Changing US Policy Landscape

REPORTER:

Michele Springer

Caudex

Recent policy changes from the current US government administration have had a significant impact on scientific communications.^{1,2} In this panel discussion, scholarly publishing and academic experts reflected on how these changes affect the scholarly communications industry and what they have been hearing from the communities they serve. The audience was able to anonymously submit questions, which were also addressed by the panel.

Topic: How can we support researchers affected by these policy changes?

The panel acknowledged that a major outcome of the current policy changes has been grant and funding termination. Some studies are being halted midway through, while others will not be able to start. Wherever possible, we should offer support and let researchers know the community values what they do. If resources allow, provide funds to bring research to an orderly rather than abrupt finish, or look into organizations that will provide funding for this purpose. Do not close more doors.

Topic: What can publishers and preprint servers do to support scholarly communications?

Publishers should continue publishing and making decisions following standards and best practices, as they always have, adhering to existing policies and remaining committed to the academic record. Be flexible with lead times and author responses, knowing that many authors are going through uncertain times. Due to fears of loss of employment or funding, there may be an increase in author requests to remove their names from or redact certain parts of their work in order to comply with new policies. In these cases, we should strive for a balance between protection and integrity. Panelists suggested approaching these requests

on a case-by-case basis. It is important for publishers to maintain standards for quality and integrity, but it is also important to protect authors and researchers. Some publishers, including Science³ and JAMA Network,⁴ as well as publishing services companies like Scholastica,⁵ have issued statements reaffirming their commitment to science and opposing censorship.

An uptick in the number of preprints is expected, as the number of authors who can no longer afford article processing charges (APCs) is expected to increase. If your publisher or journal has the means to do so, consider supporting authors who can no longer afford APCs due to funding cuts.

There may be a need for new guidance (e.g., what to do about articles that cite references that no longer exist).

Topic: Diversity, equity, and inclusion (DEI)

DEI is a hot button topic due to the current administration's policies. Panelists were asked to provide suggestions for how to continue to support DEI. One panelist suggested finding creative ways to deliver education and knowledge while still following the changing laws. Diversity goes beyond gender, race, and ethnicity, and as researchers and communicators we should think creatively about how to achieve our DEI goals in different ways. For example, using blanket terms such as "underrepresented" without saying how a group is underrepresented, or changing terminology when possible to avoid banned words. It was acknowledged that taking these approaches might lead to feelings of guilt, cowardice, or unwilling compliance. Panelists reiterated that workarounds may not be ideal but may be necessary right now. Additionally, keep in mind that while there are certain topics we will not see papers on from the United States, this does not mean research on these topics is not happening elsewhere.

Topic: How can we educate the public about the value of scientific communications?

Change does not need to be large to be impactful. As scholarly communications professionals, we can have real conversations with real people to enact change. Educate

<https://doi.org/10.36591/SE-4803-17>

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people about what you do, why it is important, and how it affects them. Encourage others in the industry to do the same. Tailor your communications to the recipients' preferences in order to effectively communicate the information you want to deliver. Not every conversation you have will move the needle, but little by little they help make a difference. Remain confident that we have principles to stand on and policies to back.

Topic: When to take a stand

There was a lot of discussion around taking a stand—when to do it, what we can do, etc. As mentioned previously, some publishers have released statements defending science and opposing recent policy changes. Some attendees expressed a desire to “get loud” about the policy changes. Others questioned at what point we are making a mistake by accommodating instead of pushing back. Panelists encouraged attendees to keep in mind that not everyone has the same resources and professional support or flexibility to take a stand. We are in a unique position now in which support for the current administration might be wavering and some former supporters are expressing regret. We can use this opportunity to connect with people who might be in this position and therefore might be more receptive to hearing a different perspective.

The overarching message of the session was to strive for balance and solidarity. As professionals in scholarly communications, our goal is to continue publishing excellent research. We might need to have some workarounds for the time being, but this too shall pass—we should continue to keep science at the forefront of what we do and focus on communicating research and findings in effective and creative ways, if necessary. We have the ability to reach people and change minds—let's use that ability as best we can.

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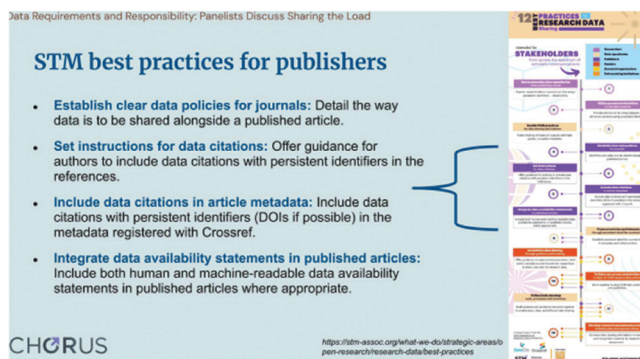


Figure 2. Best practices for publishers.

- **Educational Barriers.** Awareness is crucial for compliance.
- **Data and Materials Sharing.** Adherence to policies requiring public sharing of data, materials, and associated protocols.
- **Data Citation.** Research datasets must be cited in references as a condition for publication.

In conclusion, standardizing data practices is essential for enhancing discoverability, open access compliance, metadata quality, and stakeholder connectivity. Achieving this requires collaborative efforts across various industries to harmonize data sharing workflows, addressing the current misalignment between journals and repositories that inhibits effective curation.

The Future of Scientific Editing and Publishing: *Science Editor* Symposium

MODERATOR:

Jonathan SchultzAmerican Heart Association
Editor-in-Chief, Science Editor**Dan Kulp**Executive Editor & Director of
Publications
American Urological
Association

SPEAKERS:

Michele Avissar-WhitingHoward Hughes Medical
Institute**David Mellor**

Center for Open Science

Chhavi ChauhanAmerican Society for
Investigative Pathology

REPORTER:

Peter J Olson

JAMA Network

"The future doesn't just happen to us—we have to shape it."

Jonathan Schultz opened the final session of the 2025 CSE Annual Meeting with this eloquent edict, and although he was directly addressing the meeting's 250 attendees, the intent behind his injunction clearly extended to the scholarly publishing industry at large. Schultz set the tone for the session—entitled "The Future of Scientific Editing and Publishing: *Science Editor* Symposium"—by reflecting on the industry landscape at the start of the 21st century: Open Access (OA) had not yet been defined; peer review was still being managed via ground mail or fax; and online journals, article databases, and manuscript trafficking systems were all in their infancy. Fast-forwarding to 2025, he turned to a panel of scholarly publishing experts to elicit their thoughts on where the industry is right now, what changes they envision in the next quarter-century, and what might be done to influence those changes for the greater good of the scientific enterprise.

Michele Avissar-Whiting, Director of Open Science Strategy at Howard Hughes Medical Institute (HHMI), began the conversation by offering the perspective of a scientific research funding organization. Avissar-Whiting, who oversees OA policy and preprint-related programs at HHMI, noted that while most major industry funders have OA policies that emulate either the Holdren memo¹ or the Nelson memo,² they are beginning to supplement or

even replace these policies with preprint mandates. And although she contended that the journal article remains the dominant currency in academia for hiring, tenure, and promotions, she also noted that funders are becoming increasingly interested in nonarticle output—primarily, datasets, protocols, and preregistration information. Avissar-Whiting foresees funders shifting their attention toward these outputs in an effort to analyze scientific research more holistically, ultimately turning the focus away from the journal article as the version of record. Furthermore, she said, the popularity of preprints is making it easier for funders and funding agencies to adopt policies that will help foster this transition.

Avissar-Whiting then passed the microphone to Chhavi Chauhan, founder and president of Samast AI and Director of Scientific Outreach at the American Society for Investigative Pathology. Chauhan explored a topic that would have been difficult to anticipate 25 years ago: the intersection of artificial intelligence (AI) with diversity, equity, inclusion, and accessibility (DEIA) in the scholarly publishing industry. She noted that the onslaught of new and evolving AI tools, combined with the US administration's recent Executive Orders, has left the industry scrambling to develop policies that will maintain trust in scholarly content while preserving the rigor of the scientific record, particularly given that many institutions have abruptly ended their support of DEIA-related initiatives. As one example of this predicament, she said that algorithmic biases are likely to be introduced in multiple disciplines in scientific research owing to an inability to state whether male or female models were used. On top of that, she said, the widespread deletion of publicly available data and collectively built datasets has forced a massive alteration in how scientific research can be reported, leaving the future uncertain.

The integrity of scientific publications is also at stake. Dan Kulp, Executive Editor and Director of Publications at the American Urological Association and a former chair of the Committee on Publication Ethics, thinks that the more pervasive and persistent integrity ills (such as fabrication, falsification, and plagiarism) can be traced to a systemic reality that Avissar-Whiting had acknowledged just a few moments earlier: that the journal article has become the accepted form of currency—or what he referred to as a

<https://doi.org/10.36591/SE-4803-18>

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“token”—for advancement within the scientific enterprise. Kulp opined that the scientific research process has become monetized and manipulated such that quantity of tokens is valued over quality of content, and that this “publish or perish” mentality has taken an even stronger hold given recent geopolitical pressures. That said, he has observed efforts in the industry to look beyond the journal article and evaluate scientists on a deeper, more qualitative level, which he hopes will eventually remove token-driven incentives.

To expand on the concept of the journal article as a token, David Mellor, Senior Policy Analyst at the Center for Open Science, introduced another metaphor. Calling the journal article “the tip of the iceberg of years of work that becomes disseminated,” Mellor noted that much of the underlying data that accumulate as a natural part of the scientific process are ultimately lost and forgotten, and a published article too often represents a biased, sanitized subset of data, leading to an overproliferation of findings that belie the full body of evidence—a symptom of a system that favors significant, exciting results over “boring” findings, such as null results or replications. Mellor’s hope is that the scientific research community and the scholarly publishing industry will recognize the value of replications—regardless of the outcomes—and move toward a more collaborative process that will bring more rigor to the earlier stages of research. Only then, he said, can we be more confident that the transition from basic to applied research is efficient, transparent, and trustworthy.

After hearing from each panelist, Schultz delved further into the scrutiny surrounding the journal article’s role as the primary vessel for communicating research, asking the panel at large about the alternatives. Kulp stressed that he does not necessarily advocate eliminating the journal article, but that he believes it should be expanded to include as much data as possible so that those data can be easily referenced and replicated. Avissar-Whiting agreed, saying she envisions a more modular and iterative means of communication in which ancillary components are well integrated—or “hard-coded” into the article via links or transclusions—yielding an XML version that has an unprecedented depth to it. Mellor said we would be “fighting human nature” if we abandoned a narrative form of communication but echoed the sentiment that having wider access to a given article’s history—namely, whatever critiques may have been raised during peer review—would result in a more trustworthy narrative. Chauhan focused on the concept of collaboration, noting that shared datasets are becoming more common; in the coming years, she said, it will be important for the scholarly publishing industry to assign a unit of record for an article that includes all of the data connected with that article to begin building the most robust and rigorous body of knowledge possible.

The conversation about shared datasets led to a discussion about incentive structure. If you were to produce a widely used dataset, Schultz asked, should you be rewarded for that accomplishment in the same ways that you would be rewarded for publishing a journal article? Chauhan said she is already seeing evidence of this in the field of pathology, citing two AI tools, PathChat³ and PathPresenter,⁴ that are used for educational purposes as well as to augment pathologists’ understanding of different pathologies and improve workflow management. Kulp sees the related benefit of highlighting different researchers’ strengths; drawing from his own background in materials science, he suggested that a crystal maker could (and should) be acknowledged just as much as the investigators who go on to publish the new insights they derived from that crystal. Mellor stressed the importance of avoiding incentives that make or break a researcher’s career; the more we can diversify the portfolio of a scientific body of work, he said, the less susceptible it will be to manipulation of a single finding or a single article.

Circling back to peer review, Schultz asked the panel whether the process should be expanded to cover datasets and other methodological aspects of an article. Mellor said that although there is no single answer, he has found personal satisfaction as a reviewer for Registered Reports,⁵ a relatively new program in which a study’s methodology is peer-reviewed before the results are known: “It’s nicer to review and suggest improvements for upcoming work than it is to poke holes in something somebody’s been doing for the past 3 years.” Chauhan promoted the use of AI, noting that peer review assistant tools are already being built that can help reviewers determine the validity, accuracy, and integrity of a dataset. Avissar-Whiting questioned whether there would ever be a better surrogate for the status quo, though she did say that if a change were to happen at scale and gradually become normalized, she could envision a more expansive peer review process taking hold. Kulp reiterated his advocacy for including as much data as possible, noting that if heretofore unreviewed datasets were peer reviewed, it would be one less thing that an editorial office has to worry about when deciding whether to accept a submitted article.

Schultz then raised the question of quantity vs quality: Will we ever get to the point where the latter supersedes the former? “I think we should separate that question,” Kulp responded, going on to say that the focus should be on the quality of the output regardless of the amount of that output. Avissar-Whiting agreed, saying that we should not “curb the narratives” around the data that are being generated; we should instead seek to publish more data

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A Bond for a Lifetime— A Mentor–Mentee Relationship

Lalain D Aquino

The uniqueness of a mentorship relationship is the growth and trust between two individuals. The mentor who supports and guides, and the mentee who follows and applies that knowledge. Although the CSE mentorship program is designed to last 1 year, some pairs continue their relationship indefinitely. Such has been the case for mentor Heather Goodell and mentee Lindsey Hoover.

CSE launched the mentorship program in 2017. Any member interested in science editing or any related field can apply. Prospective mentees are then matched with veteran mentors who fit the desired expertise.

Mentor Heather Goodell started working at the American Heart Association (AHA) in 2002 and is currently the senior vice president of publishing. She specializes in the business aspect of publishing, overseeing 14 journals. Together, these journals, which include some ranking at the top of science publications, receive over 26,000 submissions yearly. As a long-time member of CSE, she joined the mentorship program to share her knowledge and experience. Through the program, she was matched with Lindsey Hoover.

At the time, Lindsey, who had worked for the American Academy of Family Physicians (AAFP) since 2008, was focused on editing medical manuscripts and materials. When she heard about the program CSE was launching, she immediately went online and signed up as a mentee. Through the program, she wanted to learn about the business aspects of publishing for medical organizations.

The mentorship committee matched Heather and Lindsey, and in August 2019, they met for the first time. Their supposedly short relationship would become a long, ongoing journey together. “When I first found out that Heather Goodell was my paired mentor, I was both shocked and intimidated,” Lindsey confessed. She had researched her mentor’s background before their first meeting and found how active Heather is in her work. Heather was also CSE president from 2013 to 2014. Excited, Lindsey knew she would learn a lot from her newfound mentor.

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<https://doi.org/10.36591/SE-4803-01>



Heather Goodell

The mentorship program calls their mentor–mentee pairs *dyads*. The dyads are provided with a 3-month basic training guideline and are recommended to meet once a month. At first, Heather and Lindsey’s relationship was strictly professional. They sent formal emails to each other and followed the guidelines. Heather answered questions that Lindsey would send her 2 days before their designated meeting time. Topics included updates to the CSE style manual and newly published articles she was interested in discussing. Most of their interactions were online through Zoom. Sometimes, they joined group sessions with other dyads to learn new skills in science editing, all while strengthening their relationship.

Slowly and surely, the two warmed up to one another. Being in the same industry, they found common ground to engage in lengthy discussions and share ideas. “Along the way, we somehow exchanged phone numbers and our conversation started to get longer,” Heather said. Their email exchanges turned into monthly phone calls and then into multiple text messages throughout the month.



Lindsey Hoover

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Talking with her mentor has given Lindsey a sense of security and certainty when making her own executive decisions and sharing ideas or input at work. Because of their relationship as mentor and mentee, she found it enjoyable to learn from Heather. "Our discussions would spark my curiosity and confidence," Lindsey stated. "It was possible for me to learn and be engaged in the topic."

The mentorship program can teach not only the mentee but also the mentor. In another context, Heather had experience as a mentee herself and wanted to be a good role model for Lindsey. Becoming her mentor taught her that she too can learn from the exchange. "I think it's really important to set the example," Heather said. "It's a great way for me to teach someone else what I've been through and in turn learn what they're going through."

About halfway through Heather and Lindsey's mentorship, COVID-19 hit, creating some challenges for the dyad. Work was moved online, policies in their fields were updated or changed, and their mental state was tested during the lockdown. "It [the mentorship] really became a support system and guidance," Lindsey states. "This ended up helping with my mental health. Having an outside person

that I could run things by." The two exchanged ideas and provided support on many topics and events, both inside and outside of work. Toward the end of their mentorship year, the dyad grew closer. They still ask what is new or what they are doing at work. When challenges present themselves, they encourage and lean on each other. "It was supposed to be a 12-month commitment, and we just never stopped," Lindsey said.

Lindsey now works as a compliance strategist at the AAFP, serving as a subject matter expert to secure and strengthen compliance with current guidelines governing accredited CME, as well as meet the standards for other certifying bodies. She is thankful to both the mentorship program and Heather for the guidance she has received. As for Heather, she continues her role as a senior vice president of the AHA while maintaining her membership in CSE and serving on the mentorship committee. Heather and Lindsey keep up with each other not only as mentor and mentee, but as friends. Besides work discussions, they are actively involved in each other's personal lives—bonding over their love for their French bulldogs and hoping to attend a Taylor Swift concert together.

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while ensuring that it is of the highest quality. That said, she foresees a "rough transitional period" regarding this mindset; large language models will only become more sophisticated and ubiquitous, making it more challenging to define what it means to be an accomplished scientist.

In closing, Schultz posed a pointed question: Are we prepared for the ethical challenges of the future? Chauhan answered with an optimistic and succinct synthesis of the afternoon's discussion: Every challenge is an opportunity. Asserting that the unprecedented obstacles faced by the scientific publishing industry have unified us in our approach to the scholarly record, her hope is that this will inspire us to seek the perspectives of nonindustry players who are beginning to see the value of science and are embracing

their role as stakeholders in the scientific enterprise. Adding these perspectives, she said, will help the scholarly publishing community envision and/or expand avenues of advancement that are more ethical, responsible, and sustainable than any pathways we may have created on our own.

References and Links

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