

# From Classic to COVID-Related: Some Communication Highlights of the 2021 AAAS Meeting

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Well before the COVID-19 pandemic emerged, the American Association for the Advancement of Science (AAAS) chose “Understanding Dynamic Ecosystems” as the theme of its 2021 annual meeting, held February 8–11. This theme gained new meaning with the pandemic’s advent, the resultant conversion of the meeting to an online event, and the inclusion of meeting content on coronavirus-related concerns. As in past years, though, the meeting included panels, workshops, and other sessions on topical and other aspects of the communication of science. The following are some highlights that might interest science editors and those in related realms.

## Institution, Journal, Reporter: Strategically Mitigating COVID-19 Misinformation

By Christina B Sumners

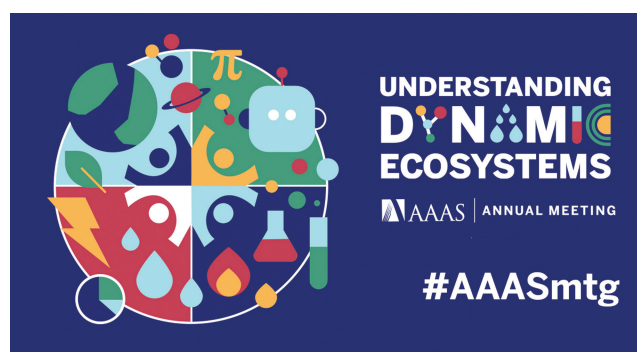
This session brought together a university public information officer, a journal press officer, and a freelance journalist to discuss the use of preprints in popular science communication during the COVID-19 pandemic.

Sarah McQuate, a public information officer at the University of Washington, discussed how she decides whether to promote her faculty’s research at the preprint stage. Before the pandemic, the university’s news office had published only 1 press release on a preprint. Between March 2020 and February 2021, it published 7. McQuate listed the criteria each preprint had to meet:

- It had a trusted author with whom she had worked before.

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- It had a timely message or findings necessary to share now, not after lengthy peer review.
- The research methods had to be standard in their field.
- The research findings had to be expected, or at least unsurprising.
- The preprint had to have some sort of internal informal peer review, such as being read and approved by other experts at the university.
- The results could not influence medical decisions.

Joseph Caputo, senior media and communications manager at Cell Press, noted that his publisher and over 30 others had signed the Wellcome Trust agreement early in the pandemic. The agreement included principles for ensuring coronavirus-related information was made freely available as quickly as possible, including encouraging publication on preprint servers before peer review. Because so many of its papers were already public as preprints, Cell Press did not embargo those related to COVID-19 research. They also limited the number of press releases about the papers’ findings. One release it did publish regarded a paper that had received considerable attention as a preprint because it reported a more-contagious coronavirus variant. To help the public better understand the scientific process, the release focused on how the paper changed during peer review. Caputo deemed the pandemic an opportunity for journals to experiment with different media relations approaches.

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Freelance journalist Wudan Yan had written an April 2020 *New York Times* article titled “Coronavirus Tests Science’s Need for Speed Limits.” In it, she described how the pandemic had driven interest in both preprints and journal articles but said the public may not understand the limitations of research—especially research not yet peer reviewed. If a journalist does cover a preprint, Yan suggested interviewing more experts than usual, including a statistician, and stating the study’s limitations in lay language as early in the article as possible.

## How to Create Compelling Research Talks Using Elements of Story

By Justin Agan

This workshop was designed to guide audience members in using elements of storytelling to give engaging and understandable presentations. In the first part, the elements of storytelling were presented, and their application was discussed. In the remainder, attendees could create their own talks using the elements of story and a simple template.

Holly Walter Kerby, of the University of Wisconsin–Madison’s Institute for Discovery, and her team members H Adam Steinberg and Jacqueline Goldstein gave this workshop. Kerby, the moderator and main speaker, spent the first part of the workshop explaining the elements of story and saying how she and her team work to help scientists employ storytelling about their research to give more engaging presentations.

To illustrate how the elements of story can be applied to science talks, Kerby, who teaches both playwriting and chemistry to college students, told her own story. She said she began by using the principles of playwriting to better engage her chemistry students and then started disseminating this approach throughout the scientific community.

Kerby described 4 principles of story: *journey*, *audience entry*, *question*, and *focus*. The *journey* is the sequence of events constituting the story. *Audience entry* consists of the parts of a story that let the audience experience the story and relate to the characters. The *question* is the main unknown in the story that needs an answer. *Focus* keeps the story on track to a single destination. Regarding focus, Kerby quoted a saying common among playwrights: “If a story is about many things, it’s about nothing.”

In the second part, Kerby and her team provided a template and guided the audience through using it to create their own stories from their research. The template contained the following elements: audience, main concept, character, problem, question, steps, answer, and conclusion. Attendees had time to complete each section of the template using the 4 principles.

During the exercise, Kerby and her teammates offered suggestions regarding each part of the template and

explained how the template can be used for both short and long presentations. They noted that the template can aid in creating 3-minute thesis talks, which recently have become popular. Kerby’s closing advice was to seek feedback from audiences to improve future talks.

## Journals, Journals Everywhere: But We Should Stop and Think

By Melissa Espinoza

Publish or perish is a common saying in academic science. But how should researchers choose where to publish their work? This question was the focus of this career workshop, coordinated by librarians Roxanne Bogucka, of The University of Texas at Austin, and Jessica Martinez, of the University of Idaho. Leading the workshop were fellow librarians Melanie Radik, of the University of Massachusetts, Amherst; Kelee Pacion, of Princeton University; and Khue Duong, of California State University, Long Beach.

After introductory comments by the leaders, the attendees were divided into breakout groups, each of which was assigned a scenario regarding choice of a journal at a given career stage or in a given professional setting. One scenario, for example, regarded a young graduate student trying to publish some work: Should the graduate student aim for a prestigious, competitive journal to get established in the field, or should they choose an expensive open access journal that would allow them to present their findings more widely? When making these decisions, the presenters said, authors have much to consider, including a journal’s accessibility, prestige, author fees, ownership policies, and publication turnaround time. The presenters mentioned rubrics that can help authors evaluate journals in such regards.

This workshop also included analysis of the current publishing ecosystem. Participants expressed hope that journals will keep what they feel works—peer review and hybrid publications—and that work will be done to address issues such as high retraction rates, predatory journals, high publication costs, and low accessibility. The workshop concluded with an optimistic discussion of the future of scientific publication. Attendees said they anticipated a rise in the use of professional writers; an increase in well-recognized, highly valued open access publications; and more patron-driven acquisition by libraries. They also voiced hope to see journals publishing review comments alongside papers.

## How to Create and Deliver an Effective Webinar

By Duanduan Han

Webinars have attained unprecedented popularity during the COVID-19 pandemic. A webinar can have both

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disadvantages and advantages relative to an in-person seminar. On the negative side, webinar audiences can be distracted by their environment, the internet connection or hardware may pose problems for speakers or listeners, and in-person engagement is impossible. However, audience members may be more comfortable asking a question in a chat box than in person, and hosts can integrate similar submitted questions to better use question-and-answer time.

In this workshop, Dennis Meredith, an independent science communicator, first presented technical tips for webinars. Among them: Use the poll function of webinar platforms to gauge audience members' interest and get instant feedback. Consider using hand gestures to attract attention, since many audience members are watching webinars on small screens such as those of cellphones. For best results with virtual backgrounds, use a green screen. However, to keep the background from concealing one's body, avoid green clothes. Invest in a standalone camera, and position it slightly above the eye level of the speakers, so they will appear to look upward rather than down or away. Do not rely on natural lighting, which may generate shadows or illuminate faces weirdly; consider a ring light, which gives adjustable, diffuse light. To help optimize audio quality and let audiences hear speakers clearly, use lapel microphones and a quiet room.

Although delivered online, Meredith noted, the core of a webinar is still the presentation. Therefore he included the following advice: Use a headline-like title to grab attention. Employ sans serif typefaces (such as Calibri). Limit each slide to no more than 40 words and 7 bullet points. To avoid distracting audience members, include on slides only material the speaker will discuss. Make use of images, which facilitate information delivery. Finally, practice and rehearse, in part as a way to find flaws in slides and speech.

Meredith also mentioned resources, including Adobe Stock for stock images and CrystalGraphics for PowerPoint templates. A handout from the workshop is posted at [http://dennismeredith.com/aaas-workshop-handout\\_519.html](http://dennismeredith.com/aaas-workshop-handout_519.html).

## Journal Challenges: Through the Lens of 2020

### By Barbara Gastel

A presentation by Monica Bradford, executive editor of *Science*, enlivened the business meeting of AAAS Section Y, which serves fields such as science communication. Titled "Journal Challenges: Through the Lens of 2020," the presentation focused largely on challenges journals have faced related to COVID-19. It also touched on recent initiatives in other regards.

Bradford noted that the move to remote work required little adjustment for the *Science* editorial office, which already had some members working remotely and was accustomed to technologies such as Zoom. She said a major effort, though, was the collaboration of multiple journals to update the 2016 Statement on Data Sharing in Public Health Emergencies; key features of the updated statement include immediately making openly available all peer-reviewed research publications relevant to the pandemic. Three COVID-era "game changers," Bradford said, were the large influx of journal submissions on COVID-19, greatly increased use of preprint servers, and expanded activity of social media in communicating about science. Accordingly, she said, editors found themselves not only screening many papers but also monitoring preprints and contending with posts in social media. She also said that obtaining peer reviewers became more difficult, both because scientists were busier and because some candidates already had seen versions of the papers as preprints or been exposed to them in social media. In closing the segment, Bradford emphasized that alongside demands posed by COVID-19, journals still were busy publishing other science.

Items that Bradford mentioned in the remaining time included the following: initiatives involving journals in helping to promote reproducibility, transparency, and openness in science; the cross-review initiative, in which peer reviewers can comment on one another's reviews before the reviewing is finalized; data-sharing policies; and researcher workflow tools. Some such efforts, Bradford said, have been temporarily receiving decreased attention because of COVID-19.

## Looking Back and Looking Ahead

As in previous years, a daylong Communicating Science Seminar preceded the main part of the annual meeting. Information on the 2021 seminar and videos of its main sessions ("Public Engagement During a Pandemic: Lessons from the Frontlines" and "Using Partnerships to Improve Public Engagement Across Sectors") can be accessed at <https://www.aaas.org/programs/center-public-engagement-science-and-technology/2021-communicating-science-seminar>. Other information on the 2021 AAAS annual meeting is posted at <https://www.aaas.org/resources/2021-aaas-annual-meeting-archive>.

The 2022 AAAS annual meeting, themed "Empower with Evidence," is slated to have both in-person and virtual aspects. The in-person component, convening February 17–20 in Philadelphia, is to include plenary and other lectures, special programming, and networking opportunities. All scientific sessions, however, will be virtual. For the latest information about the meeting, please see <https://meetings.aaas.org/>.