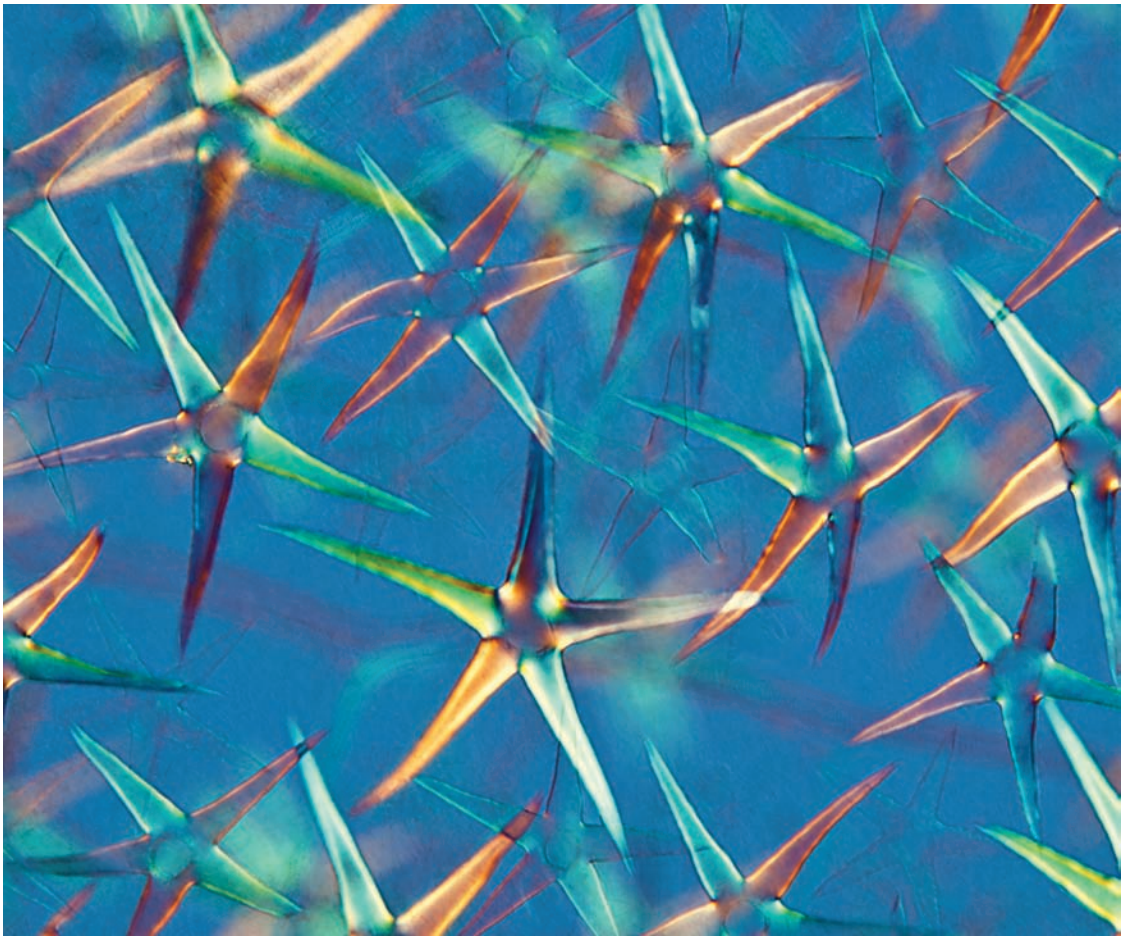
SCIENCE EDITOR

A Publication of the Council of Science Editors

In this issue

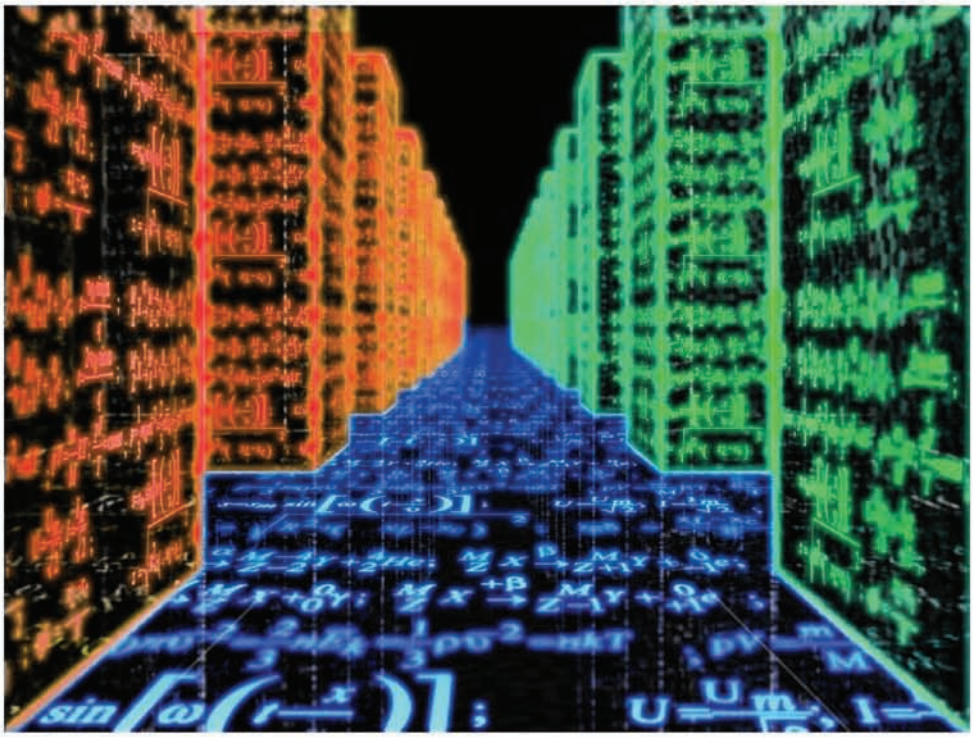


JANUARY–MARCH 2015 • VOLUME 38 • NUMBER 1

CSE 2015 ANNUAL MEETING

May 15-18 | Loews Philadelphia Hotel | Philadelphia, PA

DYNAMIC VARIABLES



Solving the New Editing/Publishing Equations

What to Expect in 2015

- **32 breakout session offerings,** providing world-class education and content
- Keynote & Plenary sessions given by **Sayeed Choudhury** of The Johns Hopkins University and **Clive Thompson,** author of the thought-provoking *Smarter Than You Think: How Technology Is Changing Our Minds for the Better*
- Many **networking and social opportunities** to meet and interact with other industry experts
- And so much more!

For full meeting information, visit www.CouncilScienceEditors.org

COUNCIL OF SCIENCE EDITORS

SCIENCE EDITOR

JANUARY–MARCH 2015
VOLUME 38 • NUMBER 1

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FEATURES

DEPARTMENTS

CSE NEWS

Cover image: Stellate leaf hairs on *Deutzia scabra*. These exuberant starbursts shoot from the leaves of *Deutzia scabra*, a deciduous shrub sometimes known as "Pride of Rochester." Its leaves are covered with tiny hairs tipped by stars a quarter-millimeter across, giving it a fuzzy texture. Japanese woodworkers sometimes use the leaves for fine polishing. Image credit: Stephen Francis Lowry, Steve Lowry Photography, reprinted with permission from the photographer.

Science Editor Online

What's a Science Editor to Do? Discover, Discuss, Make a Difference

This issue marks my first as editor-in-chief of *Science Editor*. I appreciate the opportunity to serve CSE, my colleagues, and our community.

In time to whet your appetites for the 2015 CSE annual meeting in Philadelphia, we're publishing our final group of meeting reports from Austin. These still-relevant topics include

- solving issues via crowdsourcing
- applied uses of supplemental data
- when video works (and when it may not) in journals
- new tools to enrich journal articles
- nuts-and-bolts reports on 21st-century libraries
- insights from CSE leaders about volunteering
- helping Asian authors to comply with Western editorial expectations and standards
- working from home
- big-data science—ways editors and publishers innovate and contribute to creating standards

In addition to the meeting reports, this issue features a diversity of articles, information tidbits, and familiar authors and departments. Read Barbara Gastel's coverage of a session from the 2015 AAAS Meeting outlining the soon-to-be-published *Integrity in Scientific Research* from the National Academies. She captures the essence of the session's open discussion and perspectives and previews the report's topics, such as detrimental research practices, a changing technological environment, the complexities of research misconduct, and setting best practices. Hypothes.is founder and CEO Dan Whaley along with Maryann Martone, director of Biosciences Division, describe the benefits of an open, interoperable standard for annotating scientific manuscripts and published articles. CSE member and an attorney specializing in intellectual property and research integrity issues in publications, Debra Parrish discusses a recent case that illustrates the tenuous balance in deciding at what point in a research misconduct investigation a journal should be notified of the alleged misconduct. In her latest Infovore column, Barbara Meyers Ford gathers a slew of information portals related to research (of a different sort than we're used to). *Science Editor* Managing Editor Lindsey Buscher,

Tracey A DePellegrin
Editor-in-Chief, *Science Editor*

project manager for *Scientific Style and Format 8th Edition* (*SSF8*), outlines some of the most important highlights in the latest edition. And finally, in *Science Editor*'s interview with ORCID Executive Director Laurel Haak, we learn not only about ORCID's rapid growth (they've just issued their one millionth identifier!) but ways ORCID is working to implement standards—and just how that translates into benefits for publishers, libraries, researchers, and authors.

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What's Next for *Science Editor*?

Time is one of our most precious commodities. While this platitude has been true for eons, the influx of information competing for our time and attention is a more recent—and often overwhelming—phenomenon. Science and technology offer thousands of ways to find what we're looking for (and many times, what we're not looking for!). In fact, our report in this issue covering the big-data session from the 2014 Annual Meeting underscores that many of the related barriers involve not amassing the data themselves but rather properly analyzing, interpreting, and applying meaning to the morass of information.

Consider whole-genome sequencing, which in theory offers raw data on the 3.2 billion DNA base pairs—or 6 billion nucleotides that make up a person's DNA. Although the numbers are scintillating, deriving meaning from this mountain of genetic information is even more complex than the data themselves. In the truest sense, we have more information than we know what to do with. Even Google, with its relevancy ranking based on more than 200 indicators, isn't always (or often) on the mark with its search results. Try entering "ethics in science" into the field for a Google search, and witness more than 149 million results. Where to start?

Though the science and practice of interpreting such data and results could fill several of these columns, this is where our story starts to coalesce. How do lofty concepts such as time, information, resources, and expertise relate to *Science Editor* and to you?

Whether you're part of a large organization investing heavily in research that contributes to our field or you're a consultant and change agent, *Science Editor*—and CSE—provides a forum for not just learning the standards but helping to set them. We offer an economy of scale that allows many of us to collaborate, to discover, and then even to educate our own organizations and apply our newfound knowledge.

At *Science Editor*, we seek out and provide knowledge you can reuse in the context of your organization. Our editorial board members, with their insight and expertise, ensure that you're kept up to date on what matters in the field. Instead of spending your time finding and interpreting the latest public access legislation in the UK, trying to invent a process for reviewing supplemental information that another publisher has already successfully created, determining what steps to take when your editors suspect author plagiarism, or wanting to explain the scholarly publishing landscape to a new board of directors—we hope you will not only trust *Science Editor* but also be a part of our upcoming period of growth and change.

We hope you are or will become someone others seek out for the latest answers, best practices, and thoughtful discussion. We hope to help you contribute to your authors, your customers, your scholarly society, your publishing organization, or your university. To that end, we will continue the scholarship and reputation for excellence that the journal is known for, espouse a forward-thinking approach, a firm grasp on what matters to you—to our diverse constituents, and serve as an authoritative voice for resources, advice, and the latest developments affecting scientific publishing, which in turn, we hope, serves you in your career.

We'll discuss and provide information on topics as diverse as journal data policies; ethical, legal, and social issues; the state of research funding; public–private partnerships; technology integration; and making sense of the ever-changing public-access mandates. And because *Science Editor* and CSE have no particular agenda, we're able to present, discuss, and decide unfettered by noise.

In fact, I'm continually impressed with members of CSE, the ways in which we interact with one another, ask for and offer guidance, reveal organizational processes, and share opinions—all in the context of truly improving publishing and, ultimately, expanding our roles in advancing the scientific enterprise and its larger contribution.

As of 2015, the CSE Board of Directors has provided additional support of our publication by funding a new position of Managing Editor. To that role, we welcome Lindsey Buscher. An active member of CSE, Lindsey, as many of you know, most recently led the *SSF8* project (she discusses its latest updates in this issue). Lindsey's eagle eye, attention to detail, exceptional organizational skills, and ideas make her not only a well-qualified style maven for *Science Editor* but also a valuable colleague.

Lindsey and I look forward to building on the momentum established by my predecessor, Patty Baskin, as she takes on the critical leadership role as Vice President of CSE. Patty's vision, tireless dedication, and mentorship exemplify leadership and camaraderie. We pledge to maintain the standards that she, along with her predecessors, including former EIC and current Editorial Board member Barbara Gastel, have set.

A testament to the dedication of Patty's contributing editors and editorial board is that nearly all have remained, openly sharing their ideas, helping to quickly publish this issue, and volunteering their time. In addition to Patty's guidance, CSE President Tim Cross and account manager Andrew Van Wasshnova have been patient and instructive throughout Lindsey's and my fairly rapid learning curve.

As part of *Science Editor*'s mission and vision, I plan to expand the editorial board to continue to reach the diverse communities we serve and to keep up with the pace of change. I'd like to add editors in the areas of library science, publication ethics, international publishing, and others. I also want to add editors who are practicing scientists, clinicians, researchers, software developers, and industry representatives. We welcome inquiries or nominations for positions on the editorial board. While we're fortunate to be part of CSE under their umbrella of committees, *Science Editor* also seeks volunteers to serve in other roles, such as copy editors, graphic designers, and interns. Email me at td2p@andrew.cmu.edu if you have questions, ideas for articles, or would like to talk further about volunteering.

Finally, on a personal note, my work with CSE is inspired by the scientists, editors, innovators, and colleagues in myriad fields with whom we are privileged to work. My view is that we are all cogs in the wheel—some cogs bigger than others—but cogs nonetheless. For

(continued on page 5)

SSF8: *More Than Just a Copyeditor's Best Friend*

Lindsey S Buscher

What do dwarf planets, Creative Commons licensing, and the punctuation (or lack thereof) in the word "email" have in common?

Give up? All are subjects of updates in the recently published CSE style manual, *Scientific Style and Format 8th Edition* (*SSF8*). You have no doubt heard about the release of CSE's flagship book, which landed on shelves in May 2014. However, if you work in the scientific or medical publishing industry but your job does *not* require you to focus on such details as whether a sentence should begin with a gene symbol that begins with a lowercase letter or data should be displayed in a table with a stub column or as a bar graph, then you may not be aware of parts of our manual that could be just as useful to you. For example, if you are a newly appointed editor-in-chief and want to learn about the general role and responsibilities you should be taking on, Chapter 2, "Publication Policies and Practices", is worth a read (and probably a bookmark and several sticky notes—either in the print copy or electronic versions in the online edition; more on that in a minute). It outlines not only what an editor's responsibilities should be but also those of authors and reviewers and how each of these people work with the others.

You may have also heard that *SSF8* is available to subscribers, for the first time in CSE history, as a fully searchable online reference. Besides containing the same content as the print edition, the website helps readers to easily search, read, and browse—offering multiple ways to find content. The "Tools" section (see Fig. 1) contains many other useful guidelines, samples, and a citation quick guide, among other offerings. Another helpful feature of the website is that you can bookmark any section or make your own electronic sticky notes and flag, for example, that tricky style point you only use once a year when you are indexing. The bookmarks and sticky notes are then saved and can be referenced in the "My Scientific Style and Format" section (see Fig. 1).

Figure 1.

The section "Chapter-Specific Changes" consists of a comprehensive list of significant updates found in each chapter. To access this section, click the "About Scientific Style and Format" link at the very bottom of any page of the website (see Fig. 2). For a more general idea of the updates that were made between the 7th

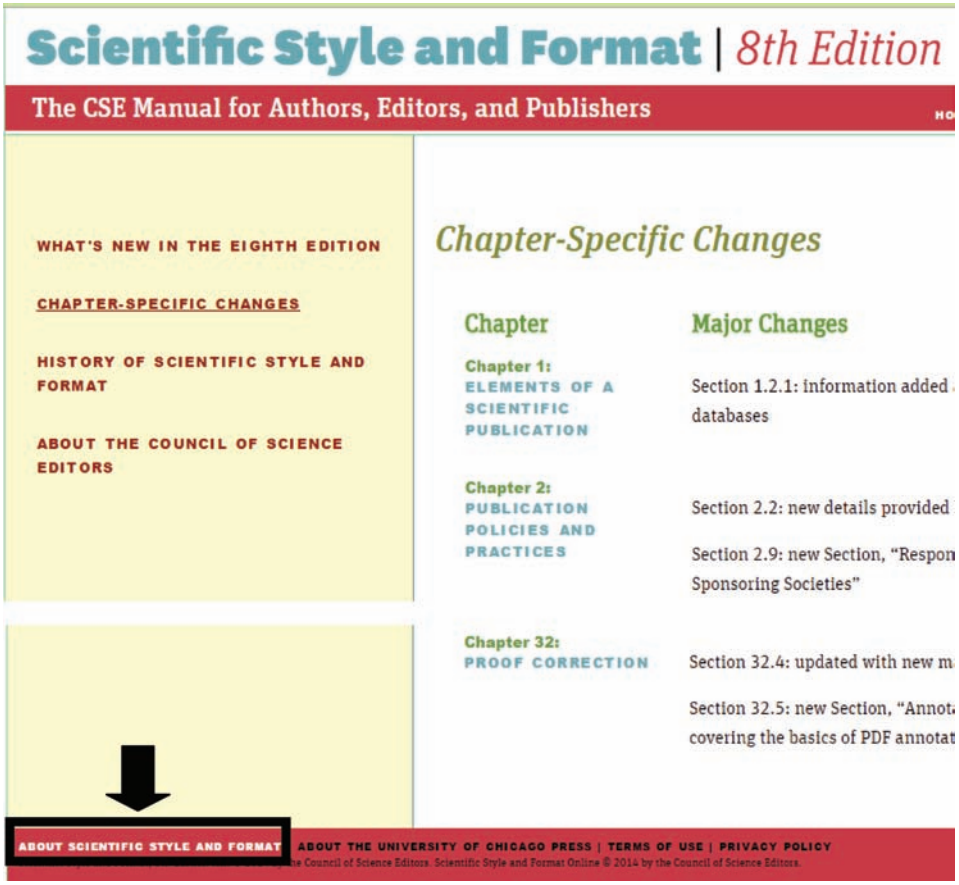

Figure 2.

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and 8th editions, we share here a shorter list, which can also be found in the section "What's New in the Eighth Edition":

- A revised citation system
- New recommendations and examples for citing online images and information graphics, podcasts and webcasts, online videos, blogs, social networking sites, and e-books
- Up-to-date coverage of technologies related to scientific research methods
- Updated discussion of plagiarism and other concerns related to academic integrity
- Full coverage of Creative Commons and other developments in copyright law
- Changes in stylistic recommendations that are consistent with the recommendations of authoritative international bodies
- Major updates to sections on physics, chemistry, genetics and biological sciences, and astronomy
- Revised and reorganized coverage of numbers, units, mathematical expressions, and statistics
- More comprehensive coverage of tables, figures, and indexes
- Thoroughly revised details of publication processes that reflect industry best practices
- A new section on active voice and passive voice
- Simultaneous publication of print and online editions, to give all users access to full-text searches of the new edition and other online tools

Finally, a recording of the May 2014 webinar is now available to members and nonmembers. If you were unable to attend the live webinar or would like to view it again, it's worth a watch. Go to http://www.councilscienceeditors.org/resource-library/past-presentationswebinars/past-webinars/2014-webinar-1-cse-style-manual-updates/ to download the video file. An overview of the new website is narrated by David Morrow, senior editor at the University of Chicago Press, which published the manual and designed the website. There is also a detailed walk-through of the major updates in each chapter.

So whether you are a copy editor, managing editor, editor-in-chief, or anything in between, you are sure to find *SSF8* a useful tool to have on hand. Where else can you learn to distinguish between data falsification and data filtering when reviewing a manuscript (Sec. 2.3), the new recommendations on naming single-nucleotide polymorphisms (Sec. 21.2), and how to cite that infographic on vaccinations (Sec. 29.3.7.13) all in one place?

continued (from page 3)

the wheel to turn smoothly, the cogs must work well together. I'm proud of the ways we serve our fields, each other, and ultimately science. I've seen a range of publishers, editors, consultants, scientists, developers, copy editors, production assistants, and editors-in-chief epitomize innovation, commitment, and unity in service of a mission and a community. I hope to provide a venue for discussions on best practices for those occupying these and other roles in scientific publishing.

My role as editor-in-chief is also dedicated to fostering our next generation of explorers: to my daughter Sophie and her love of words, nuance, history, and adventure; and to Anna and Vance, with whom years of conversations about science and the latest technology, plus grammar debates and their interest in art, brought delight and inspiration, along with a stream of neverending curiosity about robotics, astrophysics, plants, weather, and birds. Even now, as teenagers, each holds firm a belief that discovery and ideas—most notably, science—will make the world a better place.

Let's make sure these scientific discoveries and ideas are communicated clearly, effectively, ethically, broadly, deeply, and in ways that resonate with our respective audiences. I'm committed to encouraging that end.

If you're in Philadelphia, please find me and let's chat over coffee.

Tracey DePellegrin is editor-in-chief of Science Editor. *She is also executive editor for the Genetics Society of America Journals* GENETICS *and* G3: Genes | Genomes | Genetics. *She serves on the publications committee of* BioScience, *published by AIBS, the Communications Committee of the Society for Scholarly Publishing, as well as the CSE Program and Editorial Policy Committees. She has been an adjunct faculty member of the Department of English at Carnegie Mellon University (CMU), has held positions as a human factors researcher and information analyst for CMU Library Information Technology and as a managing editor, journalist, science writer, and copyeditor. DePellegrin created a Literacy Through Photography course, which she taught to children living in high-risk environments. She holds an MA in English from CMU, and a BS in marketing with an emphasis in economics from Penn State University.*

She enjoys kayaking, sailing, hiking, corvids, editing (really!), and anywhere within sight of the Pacific Ocean. Her 14-year-old daughter Sophie spends her free time acting, reading books about Tudor England, and writing fiction. Sophie laments that both her parents are editors who help with homework assignments via internal reviews and accept-with-revision decisions.

Hypothes.is: Open Annotation + Science

Maryann Martone and Dan Whaley

This year, we celebrate the 350th anniversary of the first scientific journal, the *Proceedings of the Royal Society of London*.* Dissemination of knowledge is fundamental to science, yet despite the increasing power and pervasiveness of information technology in all fields, the research article—the primary means of scientific communication—has remained virtually unchanged (FORCE11 Manifesto, www.force11.org/white_paper).

Now, however, online tools allow researchers around the world to rapidly distribute articles or other digital research objects, which are then transformed into interactive forums for discussion and for the linking of knowledge.

Powerful new platforms—such as Mendeley, Zotero, and Research Gate—allow researchers, for example, to discuss and share scientific papers or comment on books. These notes and comments are conversations among researchers who are separated in space and time. Such annotations create knowledge layers that can enhance value and link content across documents. Consider how scribbles in the margins of historic texts are prized for yielding insight into the minds of authors or readers of earlier times.

For the researcher, annotations are an important way to organize field notes. They are also used to share thoughts privately or in small groups of collaborators. However, until now, such sharing has occurred exclusively within the participants' own specific platforms.

A new approach that is in development is based on standards work going on at the W3C, the 20-year-old international body that manages open standards for the web. Imagine that researchers reading an article anywhere online or via an app on a tablet could engage in conversation—public or private—regardless of website or platform. Imagine that this social layer is distinct and separate from the document and that it is based on an open standard, so that anyone could create software to read or write contributions. Further imagine that this discussion could take advantage of the precision of annotations with powerful semantic tagging and copyediting features.

Hypothes.is is developing software to enable that vision. As a nonprofit organization, we believe that, like the web, this new annotation layer should be unencumbered by private interests that will kill its chances of being widely useful. An early prototype released in October 2014 allows users to select content within any web page or PDF and annotate it in conjunction with other users. Unlike traditional comments on web pages, annotations are placed into context (e.g., on a snippet of text or an image), not in an endless scroll at the bottom, where the target of the comment is likely to be unclear. In addition, unlike most existing annotation paradigms, these are designed specifically for sharing via the web and will, when complete, use the Web Annotation standard developed by the W3C (www.w3.org/annotation/). A browser plug-in reveals public conversations as a layer on a particular page. With those layers, comments can be turned on and off as the reader chooses. Alternatively, individuals and (soon) groups can annotate for their own purposes and choose not to share their discussions. Essentially, Hypothes.is allows multiple users to take notes or have discussions—all online—without the need to download, print, or import or export content into a particular environment.

We think that annotations can play a role not only as a postpublication layer but during the entire cycle of knowledge production, including research, writing, revising, and peer review. Last year, together with the American Geophysical Union (AGU), eLife, and arXiv, we secured a grant from the Sloan Foundation to work toward bringing annotation to scholarly peer review. In-line annotation would allow reviewers and authors to interact directly in particular parts of an article in a threaded discussion format while preserving anonymity. Depending on the journal's model, selected discussion threads could be made available with the published article to help readers to understand nuances behind key passages. In January of this year, eJournalPress, the review platform used by AGU and eLife, previewed an integrated version using Hypothes.is and brought to life an annotated review workflow. After cycles of feedback and subsequent development, full implementation is slated for late 2015.

With arXiv, the preprint service run by Cornell University, rather than formal peer review, the focus is on community discussion, which has its own unique set of challenges. What are the social tensions between the desire to ask public questions or offer critiques and the risk that the author may be on the review committee for your next grant proposal? One solution may be to focus on enabling smaller groups and journal clubs so that comments are limited to these circles. Another may be to provide more powerful tools to bloggers who are already engaged in discussion in forums away from the article itself. Whatever the circumstances, our objectives stem from an exploratory, community-driven approach in which we are experimenting with practical suggestions that can serve multiple communities.

Annotations can themselves be a form of scholarship. Funding from the Helmsley Foundation will allow us to integrate our tools with ORCID and Research Resource Identifiers (RRIDs). Through ORCID, each annotation can be tied to a unique author ID, which will allow annotations to be counted and recognized as scholarly contributions

*In 1905, the publication was divided into two journals: *Proceedings A* and *Proceedings B*.

MARYANN MARTONE *is the director of Biosciences Division and* DAN WHALEY *is the CEO of Hypothes.is*.

continued

that (at the researcher's discretion) will form a discoverable part of a researcher's profile. Through collaboration with the Neuroscience Information Framework (neuinfo.org) and the FORCE11 Resource Identification Initiative (www.force11.org/Resource_identification_initiative), annotations will be tied to unique IDs that are linked to particular research resources, such as antibodies, genetically modified animals, software tools, and databases. Through this annotation framework, researchers will be able to share information on which studies these reagents have been used in and so alert others if a problem is noted with a particular research resource. Currently, the only way to disseminate this information widely is word of mouth or inclusion in a published article with the hope that a researcher reads it before using the reagent or tool in question again.

With the current spotlight on reproducibility problems and biases toward publishing only favorable results in science, annotations can quickly warn about other quality issues, suggest modifications to experimental techniques to achieve better results, or simply provide helpful background information for unfamiliar topics. Adverse findings can be quickly communicated without the effort of writing a full paper. The enhanced visibility of small or one-off trials and bench experiments can suggest fruitful avenues to those who are better trained or who have more resources to deepen an investigation with access to small amounts of data and statistical results.

Annotation is already ubiquitous among scholars, from research through publication and beyond, and is carried out in diverse, mostly proprietary systems that until now have existed within their own frameworks and silos. Moving toward an open, interoperable standard for annotation can unlock fundamentally new capabilities. Discovering what those are and how they can benefit researchers and communities will be an evolutionary process.

ORCID: In Full Bloom

Laurel Haak, PhD, is the Executive Director of ORCID. Tracey DePellegrin of *Science Editor* had a chance to talk with Haak about ORCID's most recent activities, and their one millionth identifier!

Laurel Haak

SE: I like ORCID's grassroots feel, combined with technology that's actually adding value to many different types in research and publishing. What was the inspiration behind the original idea?

LH: ORCID came out of a growing realization that the status quo for managing information tied to researcher names was just not working. Automated algorithms for clustering author names, expert review of clusters, locally curated expert finders—all were partial and siloed solutions to the name ambiguity problem. The need for an approach that not only spanned organizations, sectors, and countries but also brought researchers into the solution as an equal partner drove a collaboration among publishers, universities, funders, associations, research institutes, repositories, researchers, and third-party systems, which ultimately created ORCID.

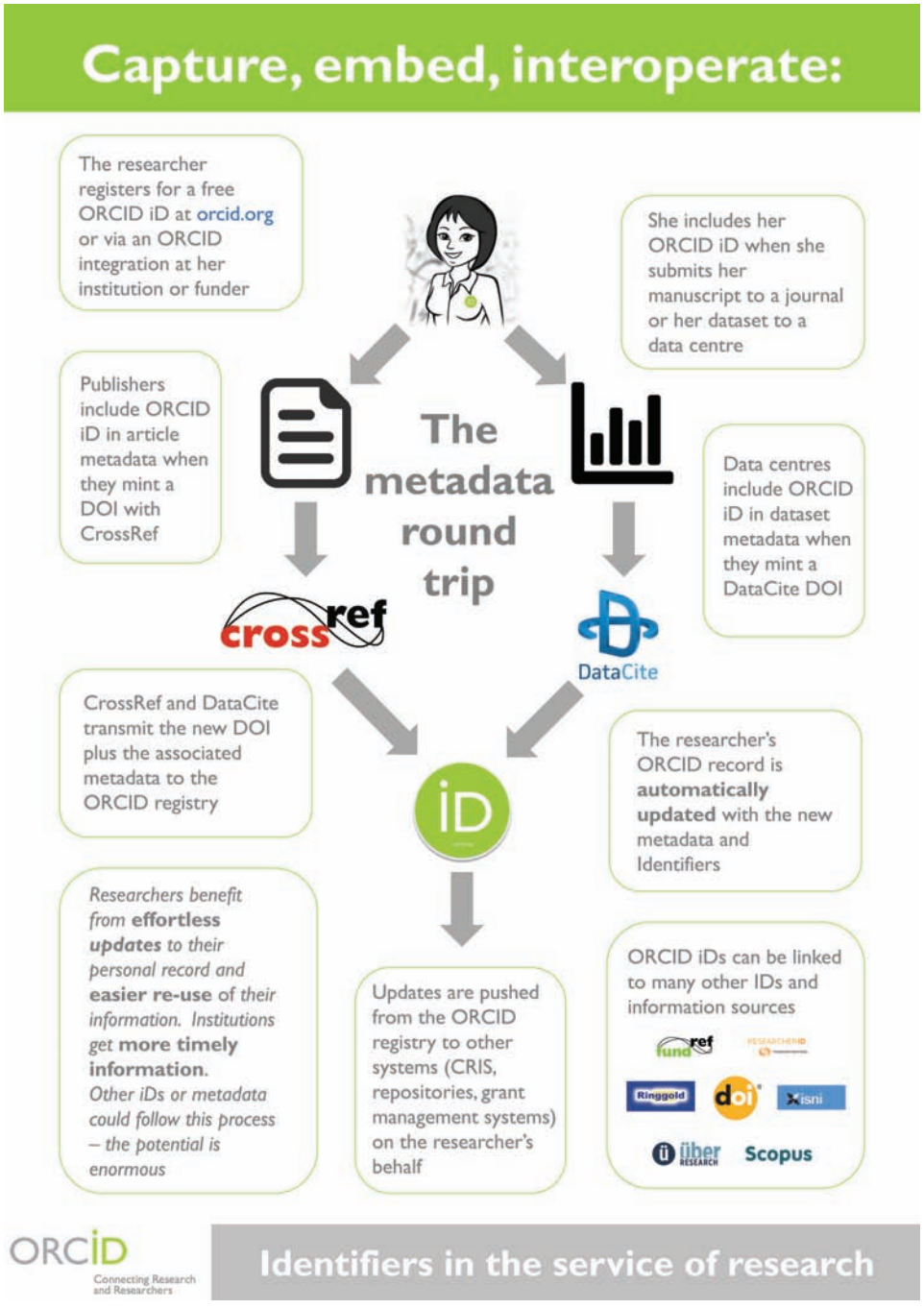

Figure 1.

SE: For this to work, it seems as if you need a critical mass of individuals with ORCID IDs. What are the challenges in getting researchers onboard?

LH: ORCID is a nonprofit researcher-driven initiative. Scholars and researchers need to register for their own ORCID

LAUREL L HAAK *is Executive Director, ORCID. She drives awareness of the ORCID mission, building strategic relationships, working with a broad range of constituents, ensuring organizational persistence, and directing ORCID staff and contractors. Previously, Laurel was Chief Science Officer at Discovery Logic, Inc; a program officer for the US National Academies' Committee on Science, Engineering, and Public Policy; and editor of Science's Next Wave Postdoc Network at the American Association for the Advancement of Science. Laurel received a BS and an MS in biology from Stanford University and a PhD in neuroscience in 1997 from Stanford University Medical School, and she was a post-doctoral fellow at the US National Institutes of Health.*

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identifier and use it when they submit a grant, paper, dataset, thesis, or patent, to name a few. For this to happen, three things are required: it must be really easy to register, identifier collection points must be inserted into workflows so that the identifier becomes embedded in documents as they are publicly shared, and the benefit to the researcher of engaging with ORCID must be clear.

SE: I like this principle, listed on the ORCID website: "ORCID will transcend discipline, geographic, national and institutional boundaries." Resonating with researchers and other stakeholders across the world is a key part of your messaging. How do you connect with researchers face-to-face?

LH: ORCID reserves a seat on its Board for a researcher-member, to get input at the highest level on our plans and policies. We host twice-yearly Outreach meetings and an annual CodeFest (see orcid.org/about/events). These are free and open to the entire community, to meet ORCID Board and staff, and learn the ways ORCID identifiers are being adopted and integrated. We just released a call for papers (www.orcid-casrai-2015.org/) for our next Outreach meeting, which will be held 18–19 May in Barcelona. Join us!

We also organize smaller workshops for specific audiences. We strive to be geographically diverse so that we can learn from the community how we can best serve their needs; to this end, we offer the Registry in nine languages. We're fortunate to have more than 80 committed ambassadors (orcid.org/content/orcid-ambassadors) who help us engage researchers through presentations, posters, and assistance with translations.

SE: ORCID seems to be at most meetings I attend, whether it's you, one of your staff, or those ubiquitous green iD pins! How do you (all) manage to be in so many places at once?

LH: We travel a lot. It is important for us to be there in person to listen. In 2014, we traveled to 22 countries on 4 continents for more than 50 meetings. That said, there are only so many places the seven of us can be—and we need to make sure we keep progressing the technology behind ORCID (and answer your questions) so we can't be on the road all the time. We rely on digital technology to engage with the community: forums, webinars, our iDeas Board, and one-on-one phone calls. Our board members (orcid.org/about/team) and ambassadors help us organize events, present at meetings, post flyers, explain ORCID to their colleagues, and help spread the word through social media (follow us at @ORCID_Org).

Also, we rely on our members: research funders, publishers, universities and research organizations, professional associations, and third-party system vendors. As more organizations and platforms integrate identifiers into research workflows—there are well over 100 collection points now—ORCID is becoming more recognized. What we hear from researchers is, "I keep being asked to include my identifier when I submit a [paper, grant, dataset, membership, review, abstract….]."

SE: Tell me more about your larger integration projects. What's a recent case?

LH: Through the Alfred P. Sloan Foundation-funded Adoption and Integration program (orcid.org/content/adoption-and-integration-program), ORCID awarded each of nine organizations a small grant to develop integration use cases and prototypes. The program was recently completed (see blog [orcid.org/blog/2015/02/11/jump-starting-orcid-adoption-and-integration-university-community] and a final report was released [figshare.com/articles/Final_Report_Sloan_ORCID_Adoption_and_Integration_Program_2013_2014/1290632]). Not only did this lead to 13 new integrations in the university and association community, we also saw the first instance of an ORCID requirement for graduate students submitting theses, active integrations of ORCID iDs in VIVO and DSpace and plugins for Hydra (github.com/projecthydra-labs/orcid), library guides from Texas A&M (guides.library.tamu.edu/content.php?pid=553864&sid=4564756), videos from the University of Missouri (www.youtube.com/watch?v=213eh-QVpkI), and international conference presentations (or2014.helsinki.fi/?page_id=985). It was splendid! The program was at the heart of a huge increase in university implementations in 2014. It also provided a blueprint for others to emulate, one of them being the recent Jisc/ARMA ORCID pilot project (orcidpilot.jiscinvolve.org/wp/2015/02/03/next-steps-for-orcid-adoption-orcid-consortium-membership-for-the-uk/) for university implementation of ORCID in the UK.

SE: I like the one-size-does-not-fit-all approach. Even though you're working to implement standards (in the end), the vibe is that of custom work and partnership. All this can seem complicated to those becoming familiar with ORCID. What clarifications are important to understanding ORCID?

LH: One of the most common misperceptions is that ORCID is a profile system. We are not. Rather, ORCID is a component of the plumbing that enables research communications. ORCID works to ensure that person names are machine readable, essentially distinguishing one researcher from another in cyberspace. All research information systems include database fields to store person names; ORCID works to ensure that these fields are augmented by two more: {person identifier source} and {person identifier}.

ORCID provides two core functions: a registry for researchers to obtain a unique identifier and manage linkages with activities and affiliations and application program interfaces (APIs) for organizations to support system-to-system communication and authentication. We make our code available under an open-source license (orcid.org/blog/2013/02/21/orcid-open-source), and annual public data files (orcid.org/content/orcid-public-data-file-use-policy)

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SE: How can universities or research institutes (and the researchers) benefit from integrating ORCID with their workflows?

LH: Research organizations that integrate person identifier fields into their processes and systems benefit from a reduction in duplicate person records and increased interoperability. This supports more accurate and complete data for evaluation purposes, and means less time pestering researchers for information on their most recent contributions.

From the researcher's perspective, there is no reason that updating a CV for an annual review should take three days!

Information on publications, funding, and other research activities should be readily available through machine-to-machine links (APIs). Researchers shouldn't have to spend time to manually enter these data.

Without that data-entry burden, researchers have more time to focus on narrative, more time to do research. Having my person identifier embedded in documents such as grants, datasets, and papers, for example, means that search engines work better, people can find all of my contributions with minimal fuss, and I can easily repurpose information for researcher profiles, repositories, CVs, grant applications, websites, and more.

SE: I read that last year, ORCID issued its one millionth identifier! Did that person get a special pin or one of your hoodies?

LH: We provided an ORCID Store (www.cafepress.com/orcid) gift card to the 10 people registering around the one millionth issued identifier. We also held a contest for best tweet, awarded to David Isaak for his entry, "Your name is not unique, but your research activity is. Distinguish it with ORCID." We sent him a customized mug with his ORCID iD and the 1M logo emblazoned on the sides.

SE: You're familiar with the Council of Science Editors. Our community, like yours, is diverse and spans many types of organizations. Some publishers have already integrated ORCID IDs into their manuscript submission systems and published articles. Can you describe a few of the most important benefits to our authors, editors, and reviewers?

LH: Publishers play an important role in encouraging researchers to register and use their ORCID. Publishers deal with complex authorship issues, made even more complicated by siloed databases for authors and reviewers. Association publishers have the added complexity of databases for members and meetings. There are name ambiguity issues in each silo, and connecting names across the silos has proven to be very difficult.

Both publishers and authors will benefit from solving the name ambiguity problem. Integrating ORCID identifiers helps publishers better manage their author databases, identify reviewers, and deliver content. Authors can benefit from automatic updates of their ORCID record when new works are published. As ORCID is adopted, authors will be able to auto-populate forms with data from their ORCID record. They can connect contributions across authorship, reviewing, membership, and meeting activities. Distinguishing names with a persistent identifier that is embedded in works means it becomes easier to find a researcher's works, which supports a whole host of use cases: improving the accuracy of name-based Internet searches, tracking an author's subsequent publications, linking publications and datasets, and gathering usage statistics.

SE: Your new system for gathering feedback is great! Almost all companies say they want user feedback, but then the comments seem to go into a black hole. Not with ORCID's Ideas Forum. People throw the word innovative around, but this Forum exemplifies innovation! Is the system catching on? What's the verdict?

LH: As a community-driven organization, we are committed to having effective channels to listen. I am thrilled to hear so many positive comments about our accessibility and responsiveness. We launched the iDeas Forum (support.orcid.org/forums/175591-general) with the Registry in 2012. In 2014, we received 158 new ideas, so it is still going strong. We do pay attention to community requests and consider them when developing our annual development roadmaps. Last year, we logged 186 responses to open iDeas and addressed 43 items, several in a single release of a new Registry user interface (orcid.org/blog/2014/12/11/new-feature-friday-new-orcid-record-interface). We have a support desk (support.orcid.org/) that monitors user and member questions, answering about 600 tickets a month and an API users listserv where our members often answer each other's questions. Our support team schedules a technical onboarding call with each new member, and we listen to the community at meetings, through email, and by watching Twitter. We continue to build out our Knowledge Base (support.orcid.org/knowledgebase) to enable easy search for answers and we recently launched a new Member Support Center (orcid.org/blog/2015/02/19/orcid-member-support-improving-on-excellence) that provides specific guidance for implementing ORCID, by community sector.

SE: OK, the inevitable last question: what's next for ORCID?

LH: Top on the list this year are updates to our API to make it even more useful. But that's largely behind the scenes. Up front and visible is our work with publishers and CrossRef to launch the first phase of ORCID record updates (orcid.org/blog/2015/01/13/new-webinar-metadata-round-trip). These record updates provide the ability to push data on published articles to an ORCID record, for those authors who included their iD during manuscript submission. This will demonstrate clearly the benefit of plumbing with ORCID and opens the door to similar "round-trip" pathways (see Fig. 1) for dataset and grant information. Stay tuned!

More Than a Collection: Applied Uses of Supplemental Data

Moderator:
Anna Jester
Director of Sales and Marketing
eJournalPress
Washington, DC

Speakers:
Christine Laine
Editor
Annals of Internal Medicine
Philadelphia, Pennsylvania

Liz Williams
Executive Editor
The Journal of Cell Biology
New York, New York

William Michener
Professor and Director of eScience
Program, University Libraries
Project Director
University of New Mexico
Albuquerque, New Mexico

Reporter:
Kelly Newton
Associate Production Manager
Proceedings of the National Academy of Sciences
Washington, DC

The importance of supplemental data in reproducibility has gained renewed focus with the development of online technology. New questions facing science publishing include these: What is the value of traditional peer review in the presentation of data? How can various fields address their specific needs and limitations? Who maintains data (independently of corresponding research reports) and how? In this session, Christine Laine, Liz Williams, and William Michener gave real-world examples of how supplemental data are used and maintained to address those questions.

Laine began with a summary of guidelines of the *Annals of Internal Medicine* that require each research article to be published with a Reproducible Research Statement that indicates whether and under what conditions study materials can be shared. The policy is not a mandate that data be made publicly available but rather constitutes a standardization of how data availability is noted; concerns about patient confidentiality prevent strict blanket requirements that may be possible in other fields.

Last year, the Yale Open Data Access Project (YODA) conducted twin meta-analyses of previously gathered primary patient-level data on rhBMP-2, a product used in spinal-fusion surgery; the *Annals of Internal Medicine* conducted separate reviews of the two resulting articles and kept the information in the reports completely independent until publication. The scope and conclusions of the YODA project highlight the importance of neutral third-party data analysis, but the experiment also highlights the importance of peer review as a curator of scientific research. All review materials and manuscript versions were published alongside the papers, and this allowed readers to see the development of initial findings into the authoritative final versions. More information on the project and its conclusions are described in an editorial: *http://annals.org/article.aspx?articleid=1696651*.

Williams discussed another field-specific concern and a major limitation faced at *The Journal of Cell Biology (JCB)*: images are the primary data produced in some research, but images in a PDF or online figure lose complexity. They become flat and static regardless of how large or high resolution a single image is, and a reader cannot interact with or further analyze the image. In response, *JCB* developed and maintains the JCB DataViewer, a browser-based image repository that allows users to zoom in on, download, and otherwise interact with the original image files, including ultralarge images and large datasets that are the basis of the published paper. Those primary data are considered supplemental data for the paper and are assigned a unique digital object identifier (DOI).

Michener addressed the question of data accessibility and archiving. Until fairly recently, the responsibility for archiving data underlying research reports was left largely to the authors themselves and was therefore not reliably and consistently retained. Michener presented two projects, Dryad Digital Repository and DataONE, both aimed at archiving data, promoting discoverability, and encouraging outside analysis and reproducible science. The former is a data repository that allows authors and publishers to deposit datasets in a variety of formats; data are assigned a unique DOI for easy referencing, are archived in CLOCKSS, and can be integrated with journal submission systems and compliant with journal embargo policies. DataONE seeks to connect networks of data to maximize discoverability and indexing and to promote data use and analysis among institutions and countries.

Dryad, DataONE, and the JCB DataViewer support and illustrate the necessity of persistent access to underlying research data. At the end of the session, Michener and Williams indicated that authors tend to gather data and then to use the data for a short period—as little as 1 to 2 years, according to Michener. The research community stands to benefit greatly from continued and standardized access to data long after initial experiments. The Internet has given us several powerful tools for easily sharing and analyzing all types of data, but peer review remains crucial for validating results, standardizing presentation, and providing context to the data. When data are hosted outside a journal, they should be easy to reference and discover.

Libraries 101

Moderator and Speaker:
Rajia Tobia
Executive Director of Libraries
University of Texas Health Science Center at San Antonio
San Antonio, Texas

Speakers:
Joan L Heath
Associate Vice President, University Librarian
Texas State University
San Marcos, Texas

Diane J Graves
Assistant Vice President for Information Resources, University Librarian
Trinity University
San Antonio, Texas

Reporter:
Leslie E Neistadt
Managing Editor
Journal of Athletic Training
St Louis, Missouri

"It's not your mother's library." And how! The guiding principle in academic and health-sciences libraries today is repurposing: staffs, spaces, and budgets.

This session was an outgrowth of the Chicago Collaborative, a working group established in 2008 to promote open communication and education among the primary stakeholders in scholarly and scientific communication. CSE is a member, as are other organizations dedicated to editing and publishing.

Libraries come in different sizes and have different specialties, reporting structures, and funding sources. They serve different types of student bodies and faculties. But the one factor that they have in common is that they are changing rapidly in response to various positive and negative forces. Positive forces include the shift from print to electronic publishing and the rise of the millennial generation; negative forces include shrinking budgets, pressures for campus space, and reductions in circulation and interlibrary lending.

Texas State University is an emerging research institution that serves a large ethnic-minority population among its 35,000 students. Its library's mission is to advance the research and teaching mission of the university, which it accomplishes by providing user-centered services; comprehensive, diverse collections; individual and collaborative learning environments; and many opportunities to learn, create, and discover. It has more than 2.4 million titles and 8,000 linear feet of archives. However, 80% of its new acquisitions are in electronic form, and 542,000 e-books are available in its catalog. The librarians these days focus on in-depth reference or research work with faculty and students, serving as consultants who have expertise in specific disciplines.

The library of the University of Texas Health Science Center at San Antonio furthers the institution's mission of making lives better through education, research, health care, and community engagement. Print collections have been pruned and consolidated to a single floor to provide students with comfortable spaces for collaboration and private study. Little-used materials are being discarded, donated, or moved to offsite storage, and print items are being replaced with digital versions whenever possible. The library staff has decreased from 60 to 36 in the last 10 years. Librarians are needed less to support print materials and more to interact with and assist faculty and students in their academic pursuits.

The University of Texas libraries cooperatively store print journals and books to reduce duplication and participate in other sharing programs among libraries in nearby states. The University of Texas Health Science Center at San Antonio receives a portion of its funding from the state of Texas, but state funds are decreasing. Increased student fees are being used to supplement the budget, but planning is problematic as budgets continue to shrink. In 2013, the University of Texas Southwestern was the first major research university given a mandate to move all print materials to another facility with the goal of achieving an all-electronic library.

Trinity University is a small (2,400 students), private liberal-arts institution in San Antonio that serves primarily undergraduates. However, it is well funded for its size and is known as a leader in the library world, having received the 2007 Association of College & Research Libraries' Excellence in Academic Libraries Award (college division). Trinity was an early adopter of the Learning Commons concept—which promotes the creation of educational spaces that can be used for collaboration, distance learning, and individual study—and a founding member of the Oberlin Group, which encourages best practices for libraries in top-ranked US liberal-arts colleges.

How do librarians make decisions about which materials to purchase? They work closely with faculty to identify the key resources in the various disciplines, but they must review the choices every year and often make the difficult decision to cut a subscription because funding is insufficient.

A library without books is no longer a contradiction in terms but, in many cases, an accurate description. The long-term test will be how well scholarly communicators and those in higher education work together to maintain academic standards while reducing costs.

Planning for Continuous Operations in an Emergency

Moderator:
Angela Schmeckebier
Editorial Assistant
American Journal of Pathology
Birmingham, Alabama

Speakers:
Denis Baskin
Executive Editor
Journal of Histochemistry and Cytochemistry
Seattle, Washington

Michael Weston
Executive Publisher
Health and Medical Sciences STM Journals, Elsevier
New York, New York

Reporter:
Kenneth F Heideman
Director of Publications
American Meteorological Society
Boston, Massachusetts

This session was immediately captivating because attendees were compelled to consider what few people want to think about: What would happen if an emergency or disaster affected the very ability of a publisher to function? Could operations continue or restart? How long might recovery take? Are there ways to mitigate such an event by planning?

Angela Schmeckebier, based in Birmingham, Alabama, served as moderator and introduced both speakers. She set the tone for the session by recounting the devastating 2011 tornado outbreak that directly affected her workplace and that of a number of remote employees who work on her journal. That recent event was a stark reminder that disasters do not just happen to "other people" in far-off places and that everyone needs to put some thought and planning into "what if?".

As executive editor of the *Journal of Histochemistry and Cytochemistry*, Denis Baskin leads a small staff, all of whom can be considered remote employees. He began by observing that when many people think about disasters they tend to think primarily about such events as earthquakes, hurricanes, tornadoes, fires, and terrorist attacks that can take out entire buildings, cities, and even regions. But he pointed out that such calamities are only part of the story. What often flies under the radar, he said, is the vulnerability of publishing operations that consist primarily of remote staff who exist more in functional and virtual space than in "brick and mortar" physical space. In such operations, the risks to business continuity are multiplied by the number of remote employees, each of whom has a vital role to play in the operation. A "disaster" in such a scenario can include things as basic as the prolonged illness of one of those remote employees or an extended power outage that affects an employee's home office. The risks to brick-and-mortar offices are real indeed, but they are more centralized, and there are generally more resources at hand to deal with emergencies.

From a risk-reduction standpoint, there are advantages and disadvantages to virtual and physical workplaces. For example, in the case of a pandemic, virtual offices have a much lower potential for the spread of disease. But data and physical security may be more robust in a large, centralized workplace. In either scenario, Baskin emphasized that planning for unforeseen events is critical. He discussed the merits of offsite and redundant computer backups, emergency evacuation bags, contact cards for people to keep in their wallets, designated meeting places, and periodic practice drills and reviews of emergency and communication plans.

As an executive publisher for Elsevier, Michael Weston brought a different perspective to the session. Elsevier, with a global staff of well over 30,000, has more full-time staff around the world dedicated to business continuity than most publishers have staff! He said that Elsevier's approach regarding business continuity is "to ensure that we can function no matter what." To that end, the company has an Incident Management Team that consists of finance, facilities, human resources, and information-technology staff and meets every day by telephone to discuss problems or flashpoints that may need to be addressed anywhere in the world. There is not 100% redundancy within the company, of course, but Elsevier has procedures in place that allow someone to log in for someone else and access critical data or perform essential job functions if the need arises. An external emergency website and emergency hotline are available for all staff to access. Weston pointed out that access to the Internet is paramount for Elsevier and that contingency plans are in place for interruptions anywhere along the grid.

My takeaway from this outstanding session was that whether publishing organizations have a staff of 3, 30, or 30,000, it is essential that time and resources be dedicated to planning for all manner of emergency scenarios *before* events make it necessary to do so.

Big Data Science: Challenges and Opportunities for Authors, Reviewers, Editors, and Publishers

Moderator:
Christine G Casey
Editor
Morbidity and Mortality Weekly Report
Centers for Disease Control and Prevention
Atlanta, Georgia

Speakers:
Veronique Kiermer
Executive Editor and Head of Researcher Services
Nature Publishing Group
New York, New York

Eleonora Presani
Journal Publisher
Journal of High Energy Physics
Elsevier
Amsterdam, The Netherlands

Reporter:
Tracey DePellegrin
Executive Editor
Genetics Society of America Journals
Bethesda, Maryland; Pittsburgh, Pennsylvania

It is no secret that scientists are generating a deluge of data. The publishing landscape has to evolve—quickly—to keep up not just with the terabytes but with helping scientists in their exploration of, interpretation of, access to, and analyses of this information.

First in the session to discuss those challenges and opportunities was Eleonora Presani, particle physicist and publisher for Elsevier's journals of nuclear and high-energy physics, who opened with a powerful quote from Kirk Borne, chair of information and statistics for the Large Synoptic Survey Telescope: "We don't have a big data problem. Data storage isn't a problem. The volume of data isn't a problem. Our problem is pulling meaningful insights out of the data avalanche."

Presani emphasized that publishers must allow scientists to express problems, communicate data, and get the right information out. Publishers can provide tools, move to a more interactive way to communicate science both to scientists and to the public, and provide streamlined methods of downloading data in usable formats.

More than a data-storage problem, today's challenges involve interpreting the data and providing the right information at the right time and to the right audience.

Veronique Kiermer, executive editor and head of researcher services at Nature Publishing Group (NPG), spoke on behalf of Ruth Wilson, head of publishing services at NPG.

The scientific community is starting to see publications dedicated to disseminating data about data. In May 2014, NPG launched *Scientific Data*, an open-access, online-only publication for descriptions of scientifically valuable datasets that features a new type of content called data descriptors, which are designed to make data more discoverable, interpretable, and usable.

Kiermer showed a graph of growth in research articles indexed in PubMed and growth of available data (in repositories) over time. The mass of data is not only catching up to the number of publications but surpassing the capacity of individual journals to properly host and curate the data. Kiermer, a molecular biologist, recalled that the landmark 1953 Watson and Crick paper describing the structure of DNA[1] contained no actual data (as we have come to define it) and in fact started an entire field with a single page of text!

Fastforwarding to 2012, broad collaborations and the large scale of these big data projects had become the norm. The Encode Project included 30 papers, 3 journals, 442 consortium members, and 15 terabytes of data. Team science and big data have unique challenges and many stakeholders, including funders.

Kiermer mentioned the Royal Society's report *Science as an Open Enterprise*[2] and the idea that although open data are useful, access alone is not sufficient. Reaping the full benefits requires substantial investment of time and effort and a paradigm shift. Data repositories (such as the National Center for Biotechnology Information, Dryad, figshare, and BioSharing) are crucial for providing data access, but the ecosystem is still fragmented, and publishers can help in several ways.

The publishing community must consider two critical elements of data sharing: replication and reproducibility and the ability to build on research and have access to everything described in published research. Journals can help by having clear data-sharing policies with specific recommendations of where to deposit data. Kiermer cautioned that data policies need to be constructed in collaboration with the communities of scientists represented by the journals.

One trend on the rise is data citation, which raises the level of credit for data production and the visibility, usability, and utility of a dataset, which in turn will spur researchers to make data available. Journals may help by integrating supplemental information, which imparts importance to how data are perceived and presented, and by making data behind figures downloadable and verifiable.

Session moderator Christine G Casey noted that one size doesn't fit all when it comes to data policies. Because data repositories are fragmented, access alone is not the "be-all and the end-all". Newly launched data journals have found a niche, and publishers can aid in providing tools for authors related to storage, presentation, and communication of data. Casey also noted that funder policies are a key driver in making research available, although journals can and indeed do influence data deposits. Casey raised an interesting question about how to elucidate and document the difference between authors and data contributors. She offered an example from physics,

(continued on page 19)

Editorial Boards: Nuts and Bolts

Moderator:
Julie Miller
Senior Editor
PCORI (Patient-Centered Outcomes Research Institute)
Washington, DC

Speakers:
Barbara Meyers Ford
President
Meyers Consulting Services
Mount Airy, Pennsylvania

Judith A Connors
Associate Director
Editorial Services, DIA
Horsham, Pennsylvania

Reporter:
Emily Wortman-Wunder
Technical Editor
Society of Mining, Metallurgy and Exploration, Inc
Englewood, Colorado

The role of an editorial board varies with the publication, but ultimately it sets the tone for its journal. As the session's first speaker, Barbara Meyers Ford, president of Meyers Consulting Services, stated, "A good editorial board will support a journal's ascendancy." The two speakers, in keeping with the session title, provided many concrete details of ways to recruit and manage an effective board.

Meyers Ford began the session with instructions for assembling a stellar editorial board. The board, she said, will influence the kind of research that gets published and ultimately the research that shapes the field. That is why it is critical to find members that are not simply "nod-and-agree" sorts but champions of the journal, committed to growing and developing it. It is also critical to provide a clear statement of expectations and hold the board members to them.

That was a conclusion echoed by the second speaker, Judith A Connors, associate director of editorial services for the Drug Information Association (DIA). Meyers Ford and Connors agreed on many of the necessary elements of a well-selected board. Above all, they said, a board must be diverse and interdisciplinary. Meyers Ford elaborated: as much as possible, the board should represent the breadth of subjects the journal will cover and have a good balance of gender, field, geographic diversity, and research standing (e.g., seniority and authority, among others).

More practically, in creating a new board or revitalizing an older one, it is important to stagger term appointments so that not all board members end their terms simultaneously. Connors strongly recommended having a succession plan in place for the editor-in-chief, having seen the premature departure of an editor-in-chief create a rudderless situation for several months. Likewise, one should budget for unforeseeable circumstances, especially when starting a journal.

Finally, one of the most important things in creating a board is to balance people who bring status and stature to the table with people who have the time and motivation to get things done—the "busy bees", as Connors called them.

Connors described her organization's recent experience in forming a revitalized board for a journal that, although new, was built on the foundation of an older, established journal. DIA wanted to retain some board members and let others go to maintain memory, add depth, and reflect the current scope of the organization. Even the existing members, however, had to apply to be on the new board and had to agree to adhere to stated responsibilities via a signed editorial-board charter. That strategy enabled her journal to move into the future with a fresh sense of purpose and a clear vision.

With the topic of selecting an editorial board out of the way, Connors and Meyers Ford shared tips for managing the board. An effective board, they agreed, has clearly stated responsibilities and an infrastructure that gives it appropriate support.

While expectations depend on the journal, they often cover similar ground. For example, the responsibilities at Connors's journal included five reviews a year plus two papers either contributed or solicited, a willingness to serve as a guest editor for a special journal section at least once during the 3-year term, and a commitment to improving the journal's quality. An effective board communicates regularly, and part of the expectation included attendance at four teleconferences and at least one of two face-to-face meetings a year.

Appropriate staff support, Connors said, also includes regular communication, tracking and reporting of journal statistics, and making sure that the journal staff is up to date on industry news.

The issue of enforcing responsibilities and duties is a sticky one with volunteer editorial boards. Connors said that her organization addressed the issue by providing two complimentary annual-meeting registrations over the course of the board members' terms and by assigning duties that were clearly defined and described and allowed different members to contribute in ways that played to their own strengths.

Educational Strategies in Publications Ethics for Asian Authors

Moderator:
Philippa Benson
Principal
PJB Consulting
Washington, DC

Speakers:
Donald Samulack
President
Editage/Cactus Communications
Philadelphia, Pennsylvania

J Patrick Barron
Professor Emeritus
Tokyo Medical University
Tokyo, Japan

Jing Duan
Managing Editor
Acta Ecologica Sinica
Beijing, China

Reporter:
Jessica LaPointe
Managing Copy Editor
American Meteorological Society
Boston, Massachusetts

Donald Samulack started this session with his "Tips and Strategies: Observations from the Field". Publication ethics is a popular topic in China: workshops that require a fee may attract hundreds of attendees, and free events, thousands. Publication ethics is also a popular topic in Japan but less so in South Korea, where researchers are more interested in manuscript preparation and career-strategy workshops. In Japan and South Korea, Western-style topics are popular. In contrast, workshop attendees in China want everything to relate to China and prefer topics presented with a "Western sense in a Chinese way".

For hands-on training, Samulack said that it is crucial to set clear expectations (for example, the event will be a 2-hour lecture in English). A website with an overview of the topic and information on how to contact the speakers afterward for followup is necessary. Written material should be in simple English and include graphic elements, such as images, tables, and callout boxes for ease of comprehension. Presenters should speak and change their slides slowly. Seniority governs personal interactions, especially in Japan, and junior-level researchers are often reluctant to speak up in front of their senior colleagues. Group activities work well in Japan, whereas one-on-one interactions work well in China and South Korea. Presenters should involve the senior researchers in the community; this will attract junior participants.

J Patrick Barron continued the session by explaining that English teaching in Japanese medical schools is in chaos. No two schools have the same criteria. Teachers usually have no background in the health sciences, and even when they happen to be native English speakers, they are often unwilling to handle material in medical science because of their lack of a medical background. A compulsory standard education course in English for Medical Purposes (EMP) for students and language teachers would be extremely helpful.

In Japan, few schools teach publication ethics. The few medical societies that have attempted writing and ethical guidelines in Japanese have not succeeded in producing clear guidelines, so most societies are unaware of how to handle ethical problems, although they are aware of their existence. Western editing services might consider educating their Asian authors about manuscript preparation and publication ethics. There is a strong interest in Asia in these topics and an urgent need for a rapid increase in the quantity and quality of ethics education.

Jing Duan then gave her presentation, "Publication Ethics in China: Issues, Causes, and Solutions". She explained that there are almost no courses for Chinese students to learn ethics and few opportunities for students to be taught by advisers and colleagues. Existing materials on ethical issues and publication practices are all written in English, so it is hard for Chinese researchers to read and understand ethical policies. Authors do not want to copy other papers verbatim, but they lack the English skills to synthesize the material and then explain it in their own words or perhaps to understand when a citation is in order, so they risk plagiarism.

To avoid lapses in publication ethics, Western publishers should clarify what is expected of authors, and printed materials should be available in Chinese. More Western experts are needed to train Chinese authors in publication ethics. If possible, publishers should set up web pages in Chinese to explain their publication requirements, and ideally representatives from Western publishers would visit China to develop relationships with Chinese authors and learn more about their needs.

In summary, Asian authors are eager for information on how to follow ethical-publication practices in accordance with Western publication standards. Some ethical lapses are caused by ignorance because the authors do not receive the necessary education in the English language and publication ethics in their native countries. Efforts to provide educational opportunities for Asian authors are likely to be warmly received, and Western publishers should take advantage of this eagerness and help their Asian authors to improve their contributions to scholarly journals.

Rapidly Changing Publishing Technology: Ignore It at Your Own Risk

Moderator:
Julie Nash
Senior Partner
J&J Editorial, LLC
Cary, North Carolina

Speakers:
Jim King
Director of Publishing Technology
American Chemical Society
Washington, DC

David Haber
Publishing Workflow Analyst
Cenveo
Columbia, Maryland

Jeff Beck
Technical Specialist
National Center for Biotechnology Information
US National Library of Medicine
Bethesda, Maryland

Reporter:
Andrea Szalay
Journal Manager
International Journal of Eye Banking
St Paul, Minnesota

As in almost every other aspect of life, technology is changing how we interact with each other and do business in scientific publication. This session covered the effects of new technology on the business, workflow, and retrievability aspects of the industry and the need for publishers to focus their efforts on researchers' needs.

Jim King, director of publishing technology at the American Chemical Society (ACS), presented a philosophic overview of change. Open access has brought attention to changes in business models, but publishers are also facing technological changes. King encouraged publishers to embrace change and drive the direction that it takes by providing the technology themselves instead of letting other players fulfill customers' needs. To continue to be viable and successful, publishers have to broaden how they define themselves, from journal publishers—which King described as "printcentric"—to disseminators of information in whatever form it takes. The industry has to listen to the needs of customers and provide innovative solutions for information dissemination.

Scientific publishers' customers are researchers who want to share their results and collaborate with each other. ACS is addressing its customers' needs by expanding its technological domain in the form of Chemworx (http://www.acschemworx.org/), an online environment in which researchers can easily share their research, collaborate with other researchers, and submit their publications. ACS also provides articles in a custom-created Active View PDF, which allows researchers to sync article annotations automatically and to access articles anywhere from any browser or on ACS's Chemworx.

David Haber, publishing workflow analyst at Cenveo, also encouraged publishers to embrace change but to remember that not all emerging technologies will work. Haber discussed how new technologies force us to look at information as data instead of words and how XML helps to organize, form, store, and transfer data. He used the example of Open Researcher and Contributor ID (ORCID) to show how XML can accomplish that. ORCID provides researchers with a unique identifier that enables links to their manuscripts, improves author search results, and reduces duplicate author information. There are questions to consider when implementing ORCID, however, such as how to collect IDs for multiple authors, how to deal with multiple IDs, and what type of quality control to use.

Haber encouraged publishers to get involved with technological initiatives and move toward roles as data collectors. By embracing and creating more tools, such as ORCID, publishing will move from printcentric models to better and faster digital workflows. That will enable publishers to attract the next generation of scientists.

Jeff Beck, technology specialist at the US National Library of Medicine's National Center for Biotechnology Information, talked about the importance of archiving data so that they are retrievable and useful to future researchers. Data have to be formatted so that changing technologies will be able to decode them. Beck described how PubMed Central and Portico use XML to archive data. Although there are differences in their archiving strategies, both are independent of publishing houses, convert content to a common format, require active participation of publishers, test content before archiving, and require content interchange from one group to another. The sender and receiver of the data must use the same XML formats, such as JATS (used by PubMed Central), DTD, RNG, and XSD.

Archives must check data for four levels of XML rectitude[1] before storing them to avoid problems during retrieval. Those levels are well-formedness, validity, sensibility, and veracity.

Beck encouraged publishers to become more technologically savvy and aware of how their content is represented in XML and stored.

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Reference and Networking Tools: New Ways to Read, Store, and Share

Moderator:
Mary K Billingsley
Managing Editor
American Academy of Child and Adolescent Psychiatry
Washington, DC

Speakers:
Laura Kuo
Health Sciences Librarian
Ithaca College Library
Ithaca, New York

Christine Buske
Head of Outreach & Relationship Development
Papers/Springer SBM
London, United Kingdom

Jeff Lang
Platform Manager, Web Editions
American Chemical Society
Washington, DC

Roy Kaufman
Managing Editor
New Ventures, Copyright Clearance Center
Danvers, Massachusetts

Reporter:
Kavitha Reinhold
Managing Editor
Journal of Graduate Medical Education
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The scholarly publishing environment generates increasing numbers of peer-reviewed articles, and there are numerous digital platforms for accessing them. New ways to read, organize, and manage content are needed. Personal digital libraries and enhanced PDFs offer solutions that enable users to interact with their articles as never before. Laura Kuo and Christine Buske described two bibliographic tools, Mendeley and Papers, respectively, and Jeff Lang demonstrated the ActiveView PDF. Roy Kaufman reviewed basic copyright issues in this landscape.

Mendeley and Papers enable users to discover new content, organize and store references, collaborate, and access content from many platforms. Kuo highlighted the Mendeley features that she uses when teaching, and Buske presented an overview of functions that Papers offers. PDFs can be annotated with both tools, and Mendeley offers color coding to distinguish users. Mendeley and Papers both feature personal libraries that contain all documents and folders of saved searches or content in interfaces similar to iTunes; metadata are automatically populated from imported PDFs, but users can also enter information manually. Users can search and find results in PubMed by using such identifiers as PMID, DOI, or ArXiv ID. Mendeley offers a Word app that can insert formatted citation information into the text of a new manuscript. Papers allows citations to be added in almost any application without plugins. Both programs offer multiple citation formats.

Papers's unified search function, which scans multiple search engines at the same time, can retrieve articles on related topics or from authors in the user's library. Papers supports various document types, including images and video. A share feature allows users to publicize content on social media or email. Mendeley has a free version, and Papers has a one-time licensing fee and offers discounted student subscriptions.

Lang noted that PDFs are a static medium. They are portable, sharable, and annotatable, but they offer no interactivity. Metrics are limited to downloads and can yield no data about user interaction with the content (such as what areas are being visited first). The American Chemical Society ChemWorks launched ActiveView PDF (a flash tool) to enhance the PDF experience with HTML.

The enriched PDF provides references in a navigation bar and makes it possible to find a citation in text or a reference quick view. Annotated articles are linked to members' IDs from the American Chemical Society website and can be viewed on desktop or mobile devices. Apps allow offline work that can be synced online later. A citation tool aggregates content. Rather than force readers to choose print or online, ActiveView creates options: some tasks are possible only online, and users can choose which version to use on the basis of their objective.

Digital sharing of content and the increasing availability of open-access material have created a number of copyright issues. Kaufman explained that copyright grants the right to copy and make derivative works. Sharing is essentially copying in the digital world. Various legal concepts and licenses are relevant to the use of copyrighted materials: de minimis use (copying so little that it does not give rise to a claim), infringement (unlawful copies), fair use (excused infringement, such as some teacher use for limited educational purposes), implied license (such as a share button provided by a publisher), and express license (for example, when a publisher gives a right to use content in a direct subscription agreement or through a third-party aggregator, such as JSTOR). Academic or corporate collective license agreements that are offered by the Copyright Clearance Center and collecting societies can provide consistent reuse rights throughout a corporation or institution. For open access, publishers may reserve all rights, and a variety of Creative Commons licenses are available, which may or may not allow commercial reuse and the making of derivative works without further permission of the copyright owner.

Digital content is constantly evolving, and ways to search, find, and share it are changing, too. This session met its objectives of introducing new reference-management tools and an enriched PDF, and highlighting aspects of copyright agreements for electronic material.

Will Video Kill the PDF Star?

Moderator:
Anna Jester
eJournalPress
Rockville, Maryland

Speakers:
Gillian Shasby
JNS Publishing Group
Charlottesville, Virginia

Moshe Pritsker
Journal of Visualized Experiments
Cambridge, Massachusetts

Reporter:
Emilie Gunn
American Society of Clinical Oncology
Alexandria, Virginia

In most scientific journals, publications of original research are rounded out by commentaries, letters to the editor, and even podcasts. Many articles are accompanied by data supplements, which might contain additional figures, raw data, or any other material that the authors think would be helpful to enhance the impact of their research. But what about video? Is there a home for it in scientific publication?

Gillian Shasby started this session by describing the process followed by the *Journal of Neurosurgery* for setting up a video program, which it calls the Video Atlas. The idea came from neurosurgeons who had been making videos of various types of surgery and needed a way to share them because they believed that they would make good training tools. The program took about 9 months to set up and has been fairly popular, with about 93,000 views in just over 2 years. (The Video Atlas is hosted on the American Association of Neurological Surgeons YouTube channel.) Shasby cautioned that it took longer than expected to work out the kinks in the video program and that setup costs have to be considered. Publishers would also be wise to consider whether they want to allow the ability to comment on videos; it takes time to monitor these carefully. Publishers considering adding a video program might want to start with just a few videos to see how well they are received before going all in with a video collection. Moshe Pritsker spoke next about the possibility that video could bring greater clarity to descriptions of scientific experiments. In scientific disciplines that rely heavily on laboratory experimentation, small changes in how an experiment is performed can make a big difference in the results. In those cases, text may not be adequate to explain the intricate steps involved in obtaining a specific result, and video can be valuable in demonstrating how to perform an experiment properly.

Pritsker cofounded the *Journal of Visualized Experiments* (*JoVE*) in December 2006. It was the first video journal to be indexed in PubMed. According to its website, *JoVE* "is devoted to publishing scientific research in a visual format to help researchers overcome two of the biggest challenges facing the scientific research community today: poor reproducibility and the time and labor intensive nature of learning new experimental techniques."

The videos in *JoVE* follow the same format as a normal research article. They each start with an introduction and move on through methods, results, and discussion. Even the review process is similar to that of a print journal. Authors are asked to submit a manuscript, which is peer-reviewed. The journal uses a network of videographers in major cities around the world. Once an article is accepted, a videographer is sent to record the experiment in the authors' laboratory. A typical recording may last several hours, but it is edited down so that the final video is 10 to 15 minutes long.

So far, *JoVE* has produced and published more than 3,000 video articles in a variety of disciplines (such as neuroscience and bioengineering). These video articles were filmed in laboratories of research universities in North America and Europe. The *JoVE* website received more than 6 million views in 2013, and its list of institutional subscribers includes nearly 700 research universities, colleges, and biopharma companies.

Video has great potential to clarify scientific communication. But Pritsker cautioned that although video is useful for demonstrating techniques in surgery or biochemical experiments, it may not be as useful in other fields, such as mathematics and computer science. And it does not apply to more theoretical subjects.

In scientific communication, authors need to be as accurate as possible, and readers need specificity if they are to understand and reproduce results. And when words fail to adequately describe what researchers need, video can often bridge that gap.

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in which 8,000 people may have contributed to an experiment (hence perhaps creating the arduous task of defining and agreeing on individual contributions).

If publishers provide guidelines on authorship and contributorship, individual scientific communities may determine how best to fit the guidelines to their disciplines. It was clear from the overflowing session that big-data science is on the minds of publishers, which, regardless of field or size, may shape data policies, access to data, and the pace of discovery.

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Crowdsourcing: Using Your Readers to Generate New Information and Solve Complex Problems

Moderator and Speaker:
Ingrid Philibert
Executive Managing Editor
Journal of Graduate Medical Education
Accreditation Council for Graduate Medical Education
Chicago, Illinois

Speaker:
Jill Waalen
Deputy Editor
American Journal of Preventive Medicine
The Scripps Research Institute
La Jolla, California

Reporter:
Lisa Jiang
Software Engineer
Inera Incorporated
Belmont, Massachusetts

Hitting a growth rate of more than 30 million words a month, 116 million unique visitors, and 4,800 active editors,[1] Wikipedia reigns as one of the biggest crowdsourcing successes. Thanks to an informal community of users who have an array of backgrounds, the content is maintained with such frequency and accuracy that it remains the most widely referenced (and plagiarized) repository of information anywhere. Crowdsourcing challenges people to apply their talents collectively to solve a problem. When implemented well, it fosters a flourishing relationship between the crowdsourcing proposer and its realized network of contributors.

The proposer's call for a contribution usually diffuses throughout an expansive and diverse group of people and results in a kaleidoscope of ideas. The proposer therefore reveals a host of perspectives that may have otherwise remained undiscovered, eliminates the need to pinpoint an individual's skill, and focuses attention on the type of solution being sought. The strategy is scalable and cost effective, especially for the type of talent that such proposals attract. Beyond the direct benefits, targeted contributors are engaged at a level that surpasses the usual customer or reader interaction. However, crowdsourcing does not rake in its myriad benefits without occasional problems. Some of the contributors are extremely unpredictable, and preserving control in timing, quality, and content from a group of faceless, dissimilar people can prove extremely demanding.

To provide more detailed insight, Ingrid Philibert, executive managing editor of the *Journal of Graduate Medical Education* (*JGME*), summarized how her organization harnessed the power of a crowd to develop a practical definition of *quality* in medical-education research, when *JGME* posed this question (of what *quality* means) to its community of readers. In defining *quality*, contributors added such qualifiers as reproducibility and, most important, applicability to real problems in the field, or the "Why should I care?" factor. The latter was related to whether the research findings could be used to meet readers' practical needs in the workplace and to address real-world problems in medical education. Additional descriptors, then, served as material for shaping *JGME*'s new submission guidelines. Although the result was not as innovative as they had hoped, *JGME* editors gleaned key insights for using this approach in the future. Philibert noted that clear questions and clarification of the context were essential. Although she acknowledged that more specific questions may at first seem limiting, confining the scope of a discussion actually guided results to more targeted, applicable solutions. Shedding light on background items, such as the "why" and "for what" of proposed questions, also paints a richer landscape for contributors.

Jill Waalen, deputy editor of the *American Journal of Preventive Medicine* (*AJPM*), detailed her exploratory tactic to combat childhood obesity. *AJPM* is primarily in the public-health category, and its editors believed that childhood obesity was a pressing topic with broad appeal and therefore a natural subject for crowdsourcing. However, *AJPM* aspired to improvements far beyond the incremental-upgrade route; she explained that the conversion from print into a "you can now follow us on Twitter" campaign was not an enticing option. Instead, an online challenge platform was used to experiment with different rewards in the mix—cash prizes, the promise of publicity, and a popular-choice award to drive traffic. Like *JGME*, *AJPM* launched its campaign through its customer base. The challenges resulted in 8,000 registered visitors and 250,000 views. Waalen believed that the campaign was an excellent way to reach a large audience and gather diverse contributions. She, like Philibert, observed the importance of guidance for collecting relevant, high-quality results.

Crowdsourcing remains an important resource for idea generation, especially as our world shifts away from paper-based knowledge to network-based knowledge. In light of crowdsourcing's rising popularity, it is important to cultivate the sustainability and effectiveness of campaigns, as well as the quality of submissions, by nudging contributors from the monetary realm into the personal.

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How Did I Get Here? Perspective of a Volunteer

Moderator:
Heather Goodell
Director of Scientific Publishing
American Heart Association
Dallas, Texas

Speakers:
Angela Cochran
Director, Journals
American Society of Civil Engineers
Reston, Virginia

Kenneth F Heideman
Director of Publications
American Meteorological Society
Boston, Massachusetts

Reporter:
Peter J Olson
Senior Copyediting Coordinator
Dartmouth Journal Services/Sheridan
Waterbury, Vermont

In addition to death and taxes, one thing is certain: CSE would not exist without its volunteers. This session was presented by three long-time CSE volunteers who told their stories to inspire volunteerism within CSE and to encourage others, with an emphasis on mentoring.

Heather Goodell introduced the session with her own story of mentorship. Her involvement with CSE began when a mentor suggested that she attend the annual meeting. Goodell obliged—and before she knew it, she had joined a committee. Not long after that, she was chairing a committee, and she ultimately served a term as CSE president. Goodell reflected that her CSE involvement is "one of the best things" she has ever done and that none of it would have happened without a mentor.

Angela Cochran began by confessing that she has a "volunteering problem". She first became involved with CSE while at the American Cancer Society (ACS), and her immediate goal was to raise the profile of ACS by attending the CSE annual meeting, believing that more exposure would yield more solutions for ACS. She soon joined the Education Committee, of which she became the chair; was eventually elected to the Board of Directors; and is now the president-elect. Cochran also helped to develop the CSE webinar series and is involved in the CSE certificate program, which has allowed her to act as a mentor for other CSE members.

Cochran, who is currently with the American Society of Civil Engineers (ASCE), listed several reasons for volunteering so extensively. First, she feels that her involvement with CSE has enriched her life at ASCE, particularly in that it has taught her how to manage by consensus. Second, she feels a sense of reward for her participation. Finally, she believes that her involvement with CSE holds weight with her colleagues and authors at ASCE by showing them that members of her organization are actively seeking other leadership roles.

Ken Heideman also began with a confession: that he is a meteorologist. He later placed this confession into context, saying that before his extensive involvement in CSE he considered himself a meteorologist who happened to be in publishing; years later, he considers himself a publishing professional who happens to be a meteorologist. Heideman said that his volunteer efforts in CSE have changed his perspective on the industry and broadened his professional world—and he gave much of the credit to his supervisor at the American Meteorological Society (AMS).

Heideman acknowledged that he was mentored by a supervisor who invested fully in his participation in CSE, noting that not everyone is so fortunate. He observed that some supervisors might adopt a shortsighted "What's in it for me?" attitude rather than recognize an opportunity to have one of their charges reflect well on their organization within a broader community. Heideman suggested that having a supervisor who is also willing to act as a mentor is a rare and wonderful thing and that it should be viewed as a distinct advantage for people lucky enough to find themselves in that situation.

The session concluded with a spirited discussion that included several testimonials about favorable volunteer experiences in CSE. Michael Friedman, a colleague of Heideman's at AMS who is now on the CSE Board of Directors, observed that AMS staff come away from CSE meetings having learned a common language of scientific publishers. Cochran expanded on that idea, saying that by sending multiple staff members to the CSE meeting, an organization increases its knowledge base exponentially simply by having those staff members report about the different sessions that they have attended.

This session is best summarized by Cochran's observation that there are two types of people: those who join a cause but do not act, and those who join a cause to inspire action or to act. She encouraged the attendees to be the latter, assuring them that their involvement will yield great rewards.

Is a Virtual Office Right for You?

Moderator:
Sarah Tegen
Vice President
American Chemical Society
Washington, DC

Speakers:
Charles Trowbridge
Assistant Director, Peer Review Operations
American Chemical Society
New York, New York

Julie Nash
Senior Partner
J&J Editorial
Cary, North Carolina

Kerry O'Rourke
Managing Editor
Kaufman Wills Fusting & Company
Chicago, Illinois

Reporter:
Bernie Stukenborg
Sales Representative
Dartmouth Journal Services/The Sheridan Group
Waterbury, Vermont

Today's work environment runs the gamut from a traditional office building where specific hours are mandatory to an organization that has no physical address and in which flex hours are the norm. The company or individual considering a move to a virtual environment should not assume success will automatically follow. In this session, sage advice from experienced industry leaders provided important information for those who are considering a virtual office (VO) for the first time or who desire to hone their existing telework policies.

To start, Sarah Tegen, of the American Chemical Society (ACS), gave an overview and demonstrated that there are many considerations to the VO discussion. On the positive side, organizations are often able to

- Lower personnel costs by eliminating the need for office space.
- Attract better talent by offering location flexibility.
- Offer employees a better work–life balance by not being limited to a 9–5 workday.

However, both management and employees also need to ask themselves the following questions:

- Does either the manager or the employee (or both) crave face-to-face contact?
- Does our organization provide the needed technical and human-resources support?
- Is the employee motivated enough?

Charles Trowbridge, also of ACS, spoke from 12 years of experience in managing people in VO environments that spanned from California to Germany. He shared the idea that both company and individual need to consider whether they are right for a virtual environment. The consideration begins with a careful selection process and an additional focus: Does the candidate have a history of independent work? Is the candidate self-motivated and disciplined? Will the employer provide the needed information-technology support? Once the employee begins, a manager should check in regularly and irregularly and go beyond a business discussion to get a sense of how the person is handling the VO. Trowbridge also noted that if a company has a culture that is tight on control and micromanages, a VO is not a good idea, because managers and other staff will not see people regularly or have constant contact. A VO requires strong trust in both directions, a good work ethic, and the willingness to go above and beyond.

Julie Nash spoke from the vendor perspective and shared her experience at J&J Editorial, which has 40 editorial assistants and managing editors. Most are in Cary, NC, and work remotely about 3 days a week. Managers are careful to consider the employee's and client's personalities before making an assignment. She mentioned a few things that should be taken into account. Know your employees: are their work habits firmly in place? Know the publisher: what are its expectations? Know the editor-in-chief: what is his or her work style and attitude toward a VO environment? Nash said that it is important not to assume that all clients are the same and to adjust and change with their needs.

Kerry O'Rourke spoke from her experience with Kaufman Wills Fusting & Company–Editorial Services, which has had a VO from its inception. She said that the company performs job interviews in person to get a sense of applicants but that each person works remotely. People choose their own hours to accommodate their business and personal lives, including early morning, late night, and weekends. An online time-management tool is used to measure the hours that employees work. Each manager takes a different approach: some have a monthly call with each employee, and others expect an email at the end of each shift with a description of what the employees accomplished.

There are many models for success in a VO. If you set the right expectations at the beginning, are aware of the pitfalls, remain flexible, and exercise strong communication skills, success can be attained.

Not Bad Apples but Bad Systems: AAAS Session Looks Ahead to National Academies Report on Integrity in Scientific Research

Barbara Gastel

Do lapses in scientific integrity stem mainly from rare moral flaws in researchers? Or does the environment for science encourage deviating from ethical ideals in doing and reporting research? The latter perspective pervaded the session "Integrity of Science", held 13 February at the 2015 American Association for the Advancement of Science annual meeting.

The session, organized by Thomas Arrison of the US National Academy of Sciences, featured members of the committee preparing the forthcoming National Academies report *Integrity in Scientific Research,* which will identify challenges the scientific community faces in ensuring integrity and recommend measures to help address them. Extensive audience discussion followed the set of presentations.

From the Committee Chair

Robert M Nerem (Georgia Institute of Technology, Atlanta), who chairs the committee preparing the report, noted that although the core values of science remain the same, much in the research environment has changed since the National Academies issued the 1992 report *Responsible Science: Ensuring the Integrity of the Research Process*. He said these changes over the past 2 decades have included increased collaboration, greater globalization, new technology, and intensified competition for funding. Given such changes, he explained, the National Academies appointed in 2012 a committee to prepare the new report, now slated for publication in 2015. He said he viewed the current session in part as an opportunity for broader input into the report.

Issues that the committee has addressed, Nerem said, have included the definition of research misconduct; the responsibilities of researchers, sponsors, and institutions; the responsibilities of scientific disciplines and the journals in them; the availability of researchers' data to others; and authorship of publications. He observed that norms for authorship differ among disciplines, and he posed the questions of whether each author's role should be stated and whether all coauthors should review a manuscript, even when a paper lists hundreds of authors. He also raised the question of whether research misconduct has become more common or is just receiving more attention.

In closing, Nerem said that if the research community does not address issues of research integrity, the government will. He said he hoped the report will facilitate ongoing dialogue on these issues.

On Detrimental Research Practices

The 1992 report divided lapses in integrity into 3 categories: misconduct (fabrication, falsification, or plagiarism), questionable research practices, and misconduct not unique to the research environment. In the new report, the second category is being renamed detrimental research practices (DRPs). Speaker Paul Root Wolpe (Emory University, Atlanta, Georgia) focused largely on these practices, which he noted were more than questionable. Wolpe identified authorship abuses as a major category of DRP and said the committee devoted considerable attention to them. Other DRPs that he identified included failure to share data and code, exploitative supervision of graduate students and others, misleading statistical analysis short of falsification, and abusive or irresponsible practices by journals.

Wolpe noted that the available statistics on scientific misconduct do not capture the full amount of such behavior—because, for example, some instances go undetected, are unreported because of power relationships, or are not pursued. He described 3 sets of consequences of scientific misconduct: costs (including monetary costs, the human toll, and the basing of later research on false premises), diminished integrity of science as an enterprise, and decreased public trust.

Speaking as a sociologist, Wolpe noted the need to consider institutional incentives to engage in scientific misconduct. He thus endorsed taking systems views rather than focusing on individuals. Subsequent speakers provided such views.

In the Changing Technological Environment

Victoria C Stodden (University of Illinois at Urbana-Champaign) spoke on "Integrity, Reproducibility, and the Changing Technological Environment for Research". She identified 3 realms where technological advances have implications for integrity of research: big data (and data-driven discovery); the increase in computational power, permitting extensive simulations; and the existence of "deep intellectual contributions now encoded only in software". She indicated that whereas the deductive sciences (such as mathematics and formal logic) and the empirical sciences (involving hypothesis testing) have established methods to identify and correct errors, computational science has not yet developed such standards.

Stodden said the 2012 workshop "Reproducibility in Computational and Experimental Mathematics", held by ICERM (the Institute for Computational and Experimental Research in Mathematics),

BARBARA GASTEL, *a former editor of* Science Editor, *coordinates the science communication graduate program at Texas A&M University.*

continued

yielded a useful report (available at *stodden.net/icerm_report.pdf*). She also discussed copyright, which she characterized as a barrier to what scientists try to accomplish. Alternatives, she noted, include open source software, Creative Commons licenses, and the Reproducible Research Standard, a set of license recommendations for computational science.

The slides from Stodden's talk, which include references and links, can be accessed at *web.stanford.edu/~vcs/talks/AAAS2015-STODDEN.pdf*.

On Why Researchers Misbehave

Brian C. Martinson (HealthPartners Research Foundation, Minneapolis, Minnesota) observed that some 20 years ago, scientific misconduct was viewed as the action of the occasional "bad apple", and science was seen as self-correcting. Citing evidence from surveys, however, he reported that behavior reflecting lack of scientific integrity is not a rare exception. He emphasized that integrity in science consists of more than just avoiding fabrication, falsification, and plagiarism and noted that many scientists admit to practices, such as inadequate recordkeeping, showing lack of rigor.

To help illustrate points, Martinson presented 2 case studies: 1 from outside science and 1 from within it. The first case, which entailed bank fraud, helped show how people often fail to recognize ethical aspects of situations and how fear of loss tends to affect how one frames decisions. The second case, involving scientific misconduct, helped show that extreme pressure for research funding can be an incentive to transgress. Martinson explained that as established scientists have trained new scientists, who in turn have trained others, the number of scientists has multiplied and hyper-competition for resources has ensued. In this hypercompetitive environment, he said, scientists fear losing their careers or laboratories if funding is not won and so face pressure to behave unethically. Martinson also noted that dependence on "soft money" to support one's work can pose a conflict of interest.

In summarizing, Martinson stated that whereas unethical behavior in science has tended to be seen as a failing of the individual, humans do not behave in voids but rather are influenced by situations and incentives. To promote integrity in science, he concluded, science needs structural and cultural reforms.

On Improving Practices

The last speaker, C.K. Gunsalus (National Center for Professional and Research Ethics, Urbana, Illinois), addressed "Upgrading Practices: Challenges and Tasks for Researchers and Institutions". As humans, Gunsalus observed, we tend to fool ourselves, and incentives can contribute to our cognitive biases. To help identify factors that may cloud one's ethical judgment, Gunsalus advocated use of the acronym TRAGEDIES: Temptation, Rationalization, Ambition, Group authority and pressures, Entitlement, Deception, Incrementalism, Embarrassment, and Stupid systems.

Regarding systems, Gunsalus noted the folly of calling for one type of behavior while rewarding another—such as when teamwork is endorsed but a winner-takes-all approach spurs competition. Among other systemic factors that Gunsalus said could undermine integrity were the large numbers of scientists and papers; the limited amounts of time, attention, and money; high turnover in personnel; and existence of conflicts of interest.

Institutional challenges that Gunsalus identified included the tendency for those investigating alleged misconduct to be colleagues of and identify with those accused, systemic pressures and incentives, power dynamics, the desire for money and prominence, the "star system" (with excessive deference to prominent researchers), and areas of ambiguity regarding norms. She acknowledged the difficulty of maintaining a robust system for identifying and resolving problems relating to research integrity.

Gunsalus then offered recommendations for individuals and institutions. Individuals, she said, should know pitfalls, have habits and structures to counter the potential for problems, attend to environmental influences, and perhaps contribute to systemic reforms. Tasks that she identified for institutions included focusing on environments; discussing, sharing, and implementing best practices, about which much has been written; both advocating and demonstrating institutional integrity; protecting those who report possible research misconduct; assessing facts, not personalities ("Even flakes can be right."); and conducting credible investigations. A question she raised was whether to introduce peer review of reports from misconduct investigations.

Open Discussion—and Looking Ahead

Many questions and comments from audience members followed the set of presentations. An attendee asked about potential tasks for journals, as the session abstract had listed this topic, but the speakers had said little about it. The respondent said the committee had discussed the topic at length. He observed that journals' attitudes toward integrity-related issues had changed in the last few years, and he noted much convergence among medical journals on matters such as disclosing conflicts of interest and noting authorship contributions. He also said the committee would welcome creative ideas on how journals can help address the challenges faced.

Other points made in the discussion included the following:

- Emphasis on publication metrics can lead scientists to sacrifice quality for quantity and speed.
- Good mentorship, rather than only didactic teaching of ethics, is needed.
- Framing reproducibility as quality assurance may promote appropriate behavior.
- Institutions can have conflicts of interest, and so maybe outsiders should conduct misconduct investigations.
- Emphasis on extrinsic recognition rather than intrinsic motivation may promote lack of integrity. So may situations, for example regarding funding, in which stakes are high and wins are rare.
- Perhaps the National Academies publication *On Being a Scientist: A Guide to Responsible Conduct in Research* should

(continued on page 25)

*Misconduct Investigations—Balancing Collaboration and Confidentiality: A View from the 2014 CSE Annual Meeting**

Charon Pierson

Continuing a tradition of collaboration between COPE and the Council of Science Editors (CSE), a panel presentation "Misconduct investigations–Balancing collaboration and confidentiality" generated enthusiastic comments on the COPE discussion document "Sharing of information among editors-in-chief regarding possible misconduct." The panel consisted of Dr. Charon Pierson, COPE Council; Dr. Steven Shafer, Editor-in-Chief, *Anesthesia & Analgesia*; and Mr. Roy Kaufman, lawyer and Managing Director of New Ventures at the Copyright Clearance Center. The audience was a dynamic part of the discussion, with editors sharing their previous experiences and lessons learned.

Specifically, the legal implications of sharing information about submitted manuscripts was a hotly debated point. According to the COPE document, COPE recognizes that there is an inherent conflict between pursuing misconduct and maintaining confidentiality when the suspect manuscript is in the peer-review process. COPE does recommend "minimizing the harm whilst maximizing the benefit" and provides several suggestions about how to do that. The legal perspective from Mr. Kaufman in this discussion is worth examining. He contended that a lawyer would look at "fact patterns" related to the conduct of all investigations by journals and as long as the process (the fact patterns of the investigation) was the same in every case, journals would be less vulnerable to legal action. Journals must have and follow policies that demonstrate a consistent and transparent approach to all investigations of misconduct. The take-home message was that editors should maintain confidentiality as much as possible, but that duty has to be balanced with an obligation to maintain the integrity of the scientific record. An overriding concern was that certain types of misconduct that put the public at risk must be pursued aggressively while still adhering to consistent and transparent processes. Some additional suggestions from the panel and ensuing discussion included 1) add a statement to the author guidelines that the editor can at his or her discretion inform other journals or institutions about suspected misconduct during the peer-review process; 2) all suspected misconduct should be investigated thoroughly according to COPE guidelines (i.e., be consistent in the approach to all investigations to avoid the appearance of being harsher with some situations or individuals); 3) keep accurate records; and 4) involve the legal department of the publisher as early as possible to avoid escalation of comments and actions that could create legal jeopardy.

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*Originally published in *COPE Digest: Publication Ethics in Practice*. June 2014 (2:6). COPE materials are available to use under the Creative Commons Attribution-NonCommercial-NoDerivs license *http://creativecommons.org/licenses/by-nc-nd/3.0/*.

continued (from page 24)

be updated in keeping with the forthcoming report.

- Protections should exist for graduate students and postdoctoral fellows who submit allegations of research misconduct.
- Science-related jobs outside academia as well as within it should be viewed as appropriate for PhDs.

The discussion also included debate about whether science is a business.

An attendee requested the expected publication date for the *Integrity in Scientific Research* report, previously slated for early 2015 release. Stifling an uneasy-sounding laugh, Committee Chair Nerem estimated that—considering the time needed for completion, review, and response—the report would become available in summer 2015. The report will be intended for researchers, research institutions, funders, journals, and groups in scientific disciplines. Reports from the National Academies can be accessed at *www.nap.edu/*.

Ethical Editor: Recent Lawsuit Against University Underscores Tension Between Confidentiality and Notice to Journals of Misconduct

Debra M Parrish

Who notifies a journal that a publication must be retracted, and when does that notification occur if an allegation of research misconduct has been made? As the *Council of Scientific Editors White Paper* notes, journals receive notices of correction or retraction from many people, including authors and institution officials (www.councilscienceeditors.org/wp-content/uploads/entire_whitepaper.pdf).

Recently, two Harvard University professors, senior authors on certain journal publications, sued Harvard Medical School, Brigham and Women's Hospital, and the relevant institution officials when the journals were notified that specific publications should be retracted at the conclusion of an institutional research misconduct inquiry.[1] The case underscores the tension between providing notice to a journal of a flawed publication early in the research-misconduct investigation and waiting until the end of a research-misconduct investigation (either institutional or federal) to provide such notice. Here, we explore the tension and benchmark current practices with respect to journal notice and action.

The Complaint

An element in the foregoing lawsuit, filed in the US District Court for the District of Massachusetts, asserts that in March 2014, a dean, acting on behalf of Harvard and Brigham and Women's, notified two journal editors that an investigation had commenced regarding 2011 and 2012 publications and recommended retraction of the articles. The complaint asserted that such journal notification was "contrary to established practices" and that "papers are rarely or never retracted without first exploring the possibility of issuing a less serious correction and without the consent of the authors." One journal issued a retraction, and one issued an expression of concern. The complaint further asserted that the authors were willing to issue a correction but could not do so without the approval of the relevant institutional review board (IRB).

Who Notifies a Journal of a Problem Publication?

The *CSE White Paper* notes that numerous individuals can notify a journal that there is significant evidence that a publication contains possibly falsified and fabricated data (*White Paper*, §3.5). Such persons include an alert reader, an institution official, the senior author, the corresponding author, all the authors, the majority of the authors, and the author accused of an impropriety. In recognition of the authors' expertise and responsibility to correct the literature and because journals have different policies and procedures for handling retractions or corrections and for determining who has standing to make such a request, many institutions encourage the coauthors of a paper to submit the appropriate correction or retraction of a publication to the journal editors. Typically, only if authors do not submit such a retraction or correction does an institution official provide the journal the notice. Appropriate federal agencies notify a journal about a problem publication only if and when a federal research-misconduct finding is made. On the basis of two informal surveys of members of CSE (see CSE Annual Meeting 2007[2] and 2012[3]), most journals, on receiving notice from an institution official, would not retract or correct a published article without further evidence of misconduct, an admission of misconduct, or the institution's investigation report. Many journals, on notice from an institution official, would ask the authors later whether the article should be retracted or corrected.

When Is a Journal Notified of a Problem Publication?

When an allegation of research misconduct is made, US federal regulations and corresponding institutional procedures prescribe a series of steps:

- Institutions have primary responsibility for evaluating and investigating allegations of research misconduct.
- The first step prescribed by US federal regulations is an inquiry. The purpose of the inquiry is to determine whether there is sufficient evidence of research misconduct to warrant an investigation.
- The second step is an investigation to determine whether research misconduct occurred under the institution's definition of misconduct, which may be broader than the conduct prescribed by federal regulations.
- If the research is sponsored by the federal government, the relevant agency must be notified of the outcome of the institution's investigation, and the agency will determine whether the conduct constitutes misconduct under the relevant agency definition.

Despite the foregoing timeline and process for a final misconduct finding, some retraction and correction requests are submitted before a final institutional finding of research misconduct.[4] With the exception

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Social Media Roundup

Lindsey S Buscher

The CSE social media outlets have been very busy during the past year, in large part thanks to our recently formed Marketing Committee and especially to Katharine O'Moore-Klopf for her hard work in finding interesting and informative material to post. In case you missed these or if you're curious what the CSE Facebook and Twitter accounts have been up to lately, here are the top five posts and tweets of December through February:

Top Five Facebook Posts:

1. **Dec. 19, 2014:** In editing science journals, you may find it helpful to follow the "golden rules for scholarly journal editors" created by Sylwia B. Ufnalska and Arjan K.S. Polderman of the European Association of Science Editors: www.ease.org.uk/publications/ease-toolkit-journal-editors/golden-rules-scholarly-journal-editors
   - 996 people reached; 9 likes; 3 shares
2. **Dec. 30, 2014:** Why editors are weird [cartoon by editor Iva Cheung]: www.ivacheung.com/2014/12/webc-am/webc-am-2/
   - 929 people reached; 10 likes; 2 shares
3. **Jan. 23, 2015:** Hilda Bastian, editor of *PubMed Health* and PubMed Commons and an academic editor for PLOS Medicine, offers tips for women to get heard at science conferences: blogs.plos.org/absolutely-maybe/7-tips-for-women-at-science-conferences/
   - 827 people reached; 4 likes; 3 shares
4. **Feb. 6, 2015:** Register for the First CSE Webinar of 2015: Prevention Is Better Than Retraction! conta.cc/1IiPnAY
   - 706 people reached; 8 likes; 2 shares
5. **Jan. 28, 2015:** If your journal uses freelance copyeditors, you may sometimes feel that their services are expensive. Editor Sophie Playle provides on-target explanations for the cost of editing: playle-editorial-services.com/editing-expensive/
   - 602 people reached; 14 likes; 2 shares

Top Five Tweets:

1. **Dec. 17, 2014:** On the @ASBPE blog, how to make the case that #editors are necessary: bit.ly/1z3KHJU
   - 3,840 people reached; 3 retweets; 3 favorites
2. **Dec. 16, 2014:** Breaking science news: @RetractionWatch gets @macfound grant to set up free database of journal retractions: bit.ly/1sxp1hY
   - 1,136 people reached; 7 retweets; 2 favorites
3. **Jan. 5, 2015:** Would a stronger post-publication culture make for better science? bit.ly/1vTuLDg
   - 1,114 people reached; 2 retweets; 1 favorite
4. **Jan. 23, 2015:** Hilda Bastian, editor of *PubMed Health* & PubMed Commons, offers tips for women to get heard at science conferences: bit.ly/1CJNA0M
   - 1,103 people reached; 4 retweets; 1 favorite
5. **Jan. 22, 2015:** Is your journal using graphical abstracts? bit.ly/1CGDgXp
   - 1,091 people reached; 6 retweets; 5 favorites

If you don't already, please join our growing online community: "like" CSE at www.facebook.com/CouncilofScienceEditors and follow on Twitter at @CScienceEditors.

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of cases involving an admission, relatively few retraction or correction requests are submitted at the conclusion of an inquiry.[5] This delay occurs, in part, because the purpose of an inquiry is to determine whether there is sufficient evidence of misconduct to conduct an investigation and because generally no final determination has been made regarding whether an article can be corrected or must be retracted.[6] In contrast, a review of some 98 cases involving at least one publication and a federal Office of Research Integrity (ORI) finding of research misconduct showed that in about two-thirds of the cases the relevant article was corrected or retracted before a federal finding was announced in the *Federal Register*. Again, on the basis of the extended time that ORI takes to review institutional findings and propose federal findings, such action is not surprising—few institutions and coauthors are willing to delay taking corrective action pending that review.[7]

Allegations in the Complaint

The complaint alleged that articles are not retracted if a correction is possible. Such an assertion is contrary to CSE survey results that indicate that if a falsification or fabrication occurred, the article will be retracted, regardless of whether it is possible to correct it (see CSE Annual Meetings, surveys 2007[2] and 2012[3]). The complaint also asserts that because the article is related to a clinical trial, the authors could not correct the literature unless and until such correction was approved by an IRB. However, the complaint asserts that there was no reason to disclose the investigation to the journal until the investigation was completed.

Federal regulations require prompt notice if a misconduct case involves issues

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*Gatherings of an Infovore**

Barbara Meyers Ford

In my last column, I provided a collection of book-related websites. This time, I've focused on an area near and dear to all our hearts—research. But not the kind we edit and publish in books, journals, and electronic media; rather, I've collected websites that are portals to all types of information. Some you may use for your work, others for your avocation, and maybe one or two just to pass the time learning about something new. May they be of value to you, however you may use them.

Research Information, tagline: the essential link between publishers, librarians, and researchers, is a bimonthly printed full-color magazine produced by Europa Science Ltd, a UK-based company. Also published in electronic form, it is available at *http://www.researchinformation.info/*.

University Press Scholarship Online offers 17,000+ titles in 28 subject areas. Aggregating scholarly content from leading university presses, UPSO offers an unparalleled research tool, making disparately published scholarship easily accessible, highly discoverable, and fully cross-searchable via a single online platform. Research that previously would have required a user to jump between a variety of books and disconnected websites can now be concentrated through the UPSO search engine. *http://www.universitypressscholarship.com/*.

*A person who indulges in and desires information gathering and interpretation. The term was introduced in 2006 by neuroscientists Irving Biederman and Edward Vessel.

The **Pew Internet & American Life Project** is an initiative of the Pew Research Center, a nonprofit "fact tank" that provides information on the issues, attitudes, and trends shaping America and the world. The Pew Internet Project explores the impact of the Internet on children, families, communities, the work place, schools, health care, and civic/political life. The Project is nonpartisan and takes no position on policy issues. Support for the Project is provided by The Pew Charitable Trusts. *http://libraries.pewinternet.org/*.

INFOdocket, housed by Library Journal, is compiled and edited by Gary Price and Shirl Kennedy. The site is free to access and is updated as often as possible during the week and at least once a day on the weekends. Before launching INFOdocket, Price and Kennedy were the founders and senior editors at ResourceShelf and DocuTicker for 10 years. FullTextReports.com is the sister site of INFOdocket. There you'll find direct access to new and free full-text reports from think tanks, governments around the world, research institutes, and academia, as well as from other sources. *http://www.infodocket.com/*.

Mary Meeker of Kleiner Perkins Caufield Byers presented her **Internet Trends** report for 2014 at the Code Conference in California. Each year since 2001, KPCB has partnered with some of the best data analysts in the country to create a comprehensive report of rising Internet trends across all industries. This year, the presentation resulted in a 164-slide deck that you can read in its entirety at *http://www.kpcb.com/internet-trends*.

Google site for **searching US newspapers:** *http://news.google.com/newspapers*.

Check the page for this search engine as well, found at *https://support.google.com/news/answer/1638638?hl=en&rd=1*.

ArtBabble, a website showcasing high-quality art-related video content from more than 60 museums and cultural institutions from around the world, is an energetic place to learn for everybody who loves and has an interest in art. It brings art content from different places and perspectives together, easily accessed and found. Created in 2009, the website was conceived, designed, programmed, and launched by a cross-departmental collection of individuals at the Indianapolis Museum of Art and is found at *http://www.artbabble.org/*.

National Geographic: Photography offers up the exquisite visual offerings created by National Geographic over the past 125 year. This corner of the NG website brings together the work of their

continued

many fine staff photographers, videographers, and community members who contribute to this expansive brocade. After creating a free login, visitors can start their journey through the site by looking over the Photo of the Day or the "Best of" slideshows that bring together highlights from past months. The "Editors' Picks" area offers thematic collections. Finally, the site contains the "Featured Bios" area, which has details on some of the fine photographers profiled here, including Paul Nicklen, Joel Sartore, and Mark Thiessen. The site can be accessed at *http://photography.nationalgeographic.com/photography/*.

Repositories of Primary Sources is a listing of more than 5,000 websites describing holdings of manuscripts, archives, rare books, historical photographs, and other primary sources for the research scholar. All links have been tested for correctness and appropriateness. Links added or revised within the last 30 days or so are marked (*New*). This research tool is accessed at *http://www.uiweb.uidaho.edu/special-collections/Other.Repositories.html*.

From **Phil Bradley's website**: "This is a collection of [more than] 200 different search engines in a variety of different subject areas—crucial search engines that you

must know about, meta, multi, directory search engines, search engines that you can use to find out about social media material, video, sound, images, and so on." There are 18 categories. The day I accessed the site there was a total of 359 items = search engines (96 recently added) across all the categories. *http://www.philb.com/searchenginespearl.htm*.

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of public safety in that institutions seeking approved assurance must have policies that address appropriate interim institutional actions to protect public health. Institutions also must notify ORI of issues that the public and research community should be informed about. It is difficult to reconcile the asserted need for IRB approval but at the same time, to claim notice is not required to journals that published such clinical-trial research. The essence of the complaint is that the *notices did not indicate that the senior authors were not liable for the data falsification or fabrication*.

Conclusion

Institutions should carefully consider who provides notice to a journal of a flawed publication and when such notice should be issued. Early notice should be balanced against the need to ensure that researchers do not build on flawed research, regardless of whether a flaw was intentional or the result of carelessness, and the need for confidentiality.

References and Notes

1. See *Anversa v. Partners Healthcare System*, D.C. MA, Civ. 14-CV-14424 (Filed Dec. 16, 2014) (the "Complaint").
2. Goodell H. Editorial Policy Committee Ethics Clinic (Part 1). CSE Annual Meeting, Austin, TX, May 21, 2007.
3. Parrish DM. What would you do? What should you do? CSE Research Misconduct Survey Results. CSE Annual Meeting, Seattle, WA, May 21, 2012.
4. See, for example, Meleik Goodwill 76 Fed. Reg. 7569 (Feb. 10, 2011) wherein the journal was notified before the investigational report was concluded in January 2008. Note that the associated Federal Register notice was more than 3 years later.
5. But see Bengu Sezen, 75 Fed. Reg. 73084 (Nov. 29, 2010) wherein the coauthor retracted six papers at the end of the inquiry and before an investigation was begun.
6. But see also the case of Tian-Shing Lee, NIH Guide, Vol. 22, No. 23 (June 25, 1993) wherein Harvard provided notice to the journals. In that case, the respondent had left the country.
7. For example, in the case of Bengu Sezen, the institution completed its investigation by February 2007, but ORI did not make those findings until November 19, 2010—3 years and 9 months later.

Are You Ready for the 2015 CSE Annual Meeting?

Tracey A DePellegrin

2015 marks another year of fascinating keynote and plenary speakers, building on our solid foundation of general session content.

The keynote speaker on Sunday will be G Sayeed Choudhury. An engaging speaker and recipient of the 2012 Frederick G Kilgour Award for Research in Library Technology, Choudhury is the Associate Dean for Research Data Management at the Sheridan Libraries of Johns Hopkins University, Senior Presidential Fellow at the Council on Library and Information Resources, principal investigator for the Data Conservancy, and a member of the Inter-University Consortium for Political and Social Research Council and DuraSpace Board.

The amount of data generated is exploding every year. And funding bodies are beginning to suggest policies for data sharing and retention for their grantees. With these challenges, publishers have vast opportunities to help establish standards for curation, preservation, and reproducibility. With these opportunities, editors and publishers are tantalizingly poised to develop new tools and services to provide to contributors, libraries and grantors. A frequent speaker on this topic, Choudhury will explore those challenges and opportunities that data represent for us in his session, "The Research Data Revolution."

Monday will feature plenary speaker Clive Thompson, a longtime contributing writer for *The New York Times Magazine* and a columnist for *Wired*. Thompson is one of the most prominent technology writers today, respected for doing deeply reported, long-form magazine stories that get beyond headlines and harness the insights of science, literature, history, and philosophy. He is the author of *Smarter Than You Think: How Technology Is Changing Our Minds for the Better*.

In his plenary talk "The Future of Thought," Thompson will discuss his research into the new ways that everyday people learn about the world, form ideas, and share them. He'll address the "audience effect," the ways that everyday "thinking out loud" changes the nature of our ideas, and the new literacies of video and photography. This session is essential for anyone who wants to understand the way that science news travels and is discussed by today's connected readers.

Here's a sneak peek at just 3 (of 32!) sessions:

Emerging Standards: Data and Data Exchange in Scholarly Publishing

Several organizations, such as CrossRef, ORCID, CASRAI, and Ringgold, are putting forth ideas to standardize data and data exchange throughout scholarly publishing. This session will discuss new initiatives that address such challenges as easily identifying funding sources, managing author disambiguation, creating a taxonomy for contributorship in scholarly publishing, and managing institution disambiguation.

Embracing the Constant Change in Media Relations

It used to be simple: coordinate with your public information office and an author's institution to create a press release. That was the way to promote the journal article and the journal. Now, instant social media, a faster production cycle, and a changing understanding of what it means to add value all force the message out more quickly and across multiple channels. In this session, you will learn how scholarly communication and publication departments coordinate to put information out quickly, what is replacing the press release, and how social media (under your control or not) is playing an ever-increasing role in the value proposition. The changing value equation and who your audience should be are keys in the ever-evolving communications landscape. Is your organization reacting or planning and anticipating?

Assessing a Journal's Impact: Article-Level Metrics and Our Editorial Responsibility

In today's scientific environment, counting citations is no longer a sufficient measure of impact. Funders and the community at large demand new ways of measuring the broader impact of research output. Alternative methods have thus emerged to assess the social and academic reach of individual research papers. This session will focus on the social responsibility to measure the impact of the science we publish and will guide journals in what they should invest in to meet this need, and how they should use these new measures.

CSE Short Courses: Additional educational opportunities

Every year, CSE's coveted and highly respected Short Courses are offered at the annual meeting. These sessions are designed for both novice and experienced editors, so be sure to register to participate! Preregister for courses focusing on Journal Editors, Publication Management, Manuscript Editors, or Journal Metrics.

Dinner Conversations: Back by popular demand!

Ever wanted to meet colleagues who are interested in the same topics you are? Need to expand your professional network or share stories? Just want to try out a new restaurant? We're pleased to once again organize a series of Dinner Conversations, which at the 2014 CSE Annual Meeting were fun, interesting, and popular. Check the CSE Annual Meeting site or learn more at the Registration Desk.

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Peer Renewed: Terse Verse

William R Phillips

The editor's urgent directive:
Dear author, please be more selective.
Our readers' hearts sink
When we drown them in ink.
Short pieces will be most effective.

William R Phillips, MD, MPH, is the Theodore J Phillips Endowed Professor in Family Medicine as well as Senior Associate Editor, Annals of Family Medicine. *Dr Phillips is at the University of Washington. wphllps@uw.edu.*

Science Editor: *Call for Papers, Participation*

Science Editor invites you to contribute to our—to your—journal. We're looking for interns, graphic designers, copy-editors, bloggers, and those with a social media/web presence. We also seek manuscript contributions. Manuscripts can be written from a scholarly or research angle or a professional or practitioner point of view. The material ought to be of broad interest to the CSE community or of significant interest to more niched members of our community. We are especially interested in publishing articles about the most current topics and innovations in our field and hosting discussions on complex issues in scientific editing and publishing.

If you're interested in contributing to *Science Editor*, please contact Tracey A. DePellegrin, Editor-in-Chief, td2p@andrew.cmu.edu or tracey.depellegrin@thegsajournals.org.

Calendar

2015

25–28 April	**Association of Clinical Research Professionals global conference**. Salt Lake City UT. *www.acrpnet.org*.
27–29 April	**International Society for Medical Publication Professionals annual meeting**. Arlington VA. *www.ismpp.org*.
29 April–1 May	**American Society for Indexing annual conference**. Seattle WA. *www.asindexing.org*.
2 May	**BELS (Board of Editors in the Life Sciences) examination**. Chapel Hill NC. Registration deadline is 11 April. Contact: Leslie E Neistadt, BELS Registrar, 3437 Caroline Mall, Office 3088, St Louis, MO 63104; (314) 977-7811; *neistadt@slu.edu*; *www.bels.org*.
15–18 May	**Council of Science Editors annual meeting**. Loews Philadelphia Hotel, Philadelphia PA. Contact: CSE, 10200 W 44th Ave, Suite 304, Wheat Ridge, CO 80033; (720) 881-6046; *www.CouncilScienceEditors.org*.
16 May	**BELS (Board of Editors in the Life Sciences) examination**. Philadelphia PA. Registration deadline is 25 April. See preceding BELS listing for registration information.
27–29 May	**Society for Scholarly Publishing annual meeting**. Arlington VA. *www.sspnet.org*.
12–14 June	**Editors' Association of Canada annual meeting**. Toronto ON. *www.editors.ca*.
14–18 June	**Drug Information Association annual meeting**. Washington DC. *www.diahome.org*.
30 September	**BELS (Board of Editors in the Life Sciences) examination**. San Antonio TX. Registration deadline is 9 September. See preceding BELS listing for registration information.
30 September–3 October	**American Medical Writers Association annual meeting**. San Antonio TX. *www.amwa.org*.
10–12 November	**Association of American Medical Colleges annual meeting**. Baltimore MD. *www.aamc.org*.

Information for Contributors

- *Science Editor* welcomes contributions describing research and current practices in editorial processes, publication ethics, policy, business models, and other items relevant to CSE members and journal readers.
- Please submit manuscripts online at www.editorialmanager.com/se.
- Submit material in the style recommended by *Scientific Style and Format*, with references in the order of citation.
- Submitted materials are subject to editing by the appropriate editors and copyeditor.

Email editorial or presubmission inquiries, suggestions, or comments to Tracey A DePellegrin, Editor-in-Chief, td2p@andrew.cmu.edu or tracey.depellegrin@thegsajournals.org.

In the Next Issue

- AuthorAID: Supporting Developing-Country Researchers
- On Words: When We're Not on the Same Page
- SciComm Highlights from the 2014 AAAS Annual Meeting

COPE

COMMITTEE ON PUBLICATION ETHICS

COPE membership

Benefits

Resources available to members include:

- Access to the interactive eLearning course (available to all your editors)
- Advice on individual cases via the Forum
- Advice on publication ethics via 'Ask COPE'
- Free attendance at COPE seminars and case workshops
- Use of the ethical audit tool to see how well your journal matches COPE's guidelines
- Sample letters editors can use when dealing with problem cases
- Use of the COPE logo in your journal
- Standing for election to COPE Council

Other resources available to members and non-members include:

- Flowcharts to help editors faced with cases of suspected misconduct
- Code of Conduct and Best Practice Guidelines for Journal Editors
- Code of Conduct for Publishers
- Guidelines on the most important areas of publication ethics
- Cases database – cases plus summaries and audio of the discussion and advice
- Monthly eNewsletter – an update on COPE and the latest news in publication ethics

Who is eligble?

Full membership is open to editors of peer-reviewed scholarly journals and companies that publish peer-reviewed scholarly journals. Individuals or companies who are interested in publication ethics and are working in or associated with the publication of peer-reviewed scholarly journals can apply for associate memebrship.

Subscription

Current subscription rates are available in at http://publicationethics.org/join-cope. COPE Council will always consider applications for reduced subscriptions, or waivers — guidance and rates are outlined in "Fee reductions and waivers policy" (http://publicationethics.org/join-cope). Contact us at http://publicationethics.org/contact-us for more information on becoming a member.

How COPE is managed

Constitution

COPE is registered as a charitable company limited by guarantee in the UK and was set up by a Memorandum of Association on 3 October 2007 (last updated 22 March 2013). It is also a registered charity (number 1123023). COPE's principal objects are the promotion, for the public benefit, of ethical standards of conduct in research and ethical standards in the publication of scholarly journals.

COPE's income is derived exclusively from subscriptions from its members – journal editors, publishers and others affiliated with publishing.

COPE submits an annual report to the Charities Commission and to Companies House.

Objectives

COPE's aim is to provide advice and guidance on best practice for dealing with ethical issues in journal publishing. COPE's services and products are aimed primarily, but not exclusively, at editors and publishers of scholarly journals. COPE has supported the UK Panel for Research Integrity (UKRIO) and the World Conferences on Research Integrity (Lisbon 2007, Singapore 2010, Montreal 2013). It also has links with the Council of Science Editors, the European Association of Science Editors, the International Society of Managing and Technical Editors, the Association of Learned and Professional Society Publishers, and the World Association of Medical Editors.

Appointment or election of trustees

The members of COPE Council act as the trustees; they and the COPE officers are nominated and elected by the full COPE membership according to the procedures laid out in the Memorandum and Articles of Association and in the Regulations of COPE. COPE officers are the Chair, Vice Chair, Treasurer, and Secretary. There are up to 14 other Council members. The biographies and conflict of interest declarations of all Council members are posted on the COPE website. COPE Council members and officers all work on a voluntary basis, without remuneration, except for travel, accommodation and other necessary expenses incurred in undertaking COPE business, according to COPE's expenses policy freely available on the website.

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