The Write Stuff
Advice on writing grants and research articles from the Research Medical Library

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In this issue...

The growing acceptance of preprints in biomedical publishing

– Bryan Tutt

Preprint servers, also called prepress servers, are widely used in many academic disciplines to publish and receive feedback on research articles before peer review and publication in an academic journal (1). Articles posted on such servers are called *preprints*.

Biomedical research was slower than other fields to adopt the use of preprints. Although the publication of preprints gradually increased in biomedical research in recent years, many researchers remained reluctant to release unrefereed (i.e., non–peer reviewed) findings as preprints (2). The emergence of COVID-19 changed this dynamic in the first months of 2020.

"[A]longside the public health crisis, the COVID-19 pandemic also triggered a scientific emergency," wrote Vasconcelos et al. (3), who modeled the increase in COVID-19–related preprints over time. "The scientific community has met this challenge by producing an unprecedented number of scholarly works in a very short period of time." Between January 1, 2020, and October 31, 2020, more than 125,000 manuscripts on COVID-19 were published, and more than 30,000 (about 25%) of these were preprints (4,5).

Another effect of the pandemic on the use of preprints was noted by Fraser et al. (4), who found that 85% of the corresponding authors who posted a preprint about COVID-19 from January through October 2020 had never before posted a preprint. These researchers focused on two of the larger biomedical preprint servers, bioRxiv and medRxiv (Rxiv is pronounced "archive"), and found that 10,232 COVID-19 preprints were posted on these servers during this time. By comparison, 78 Zika-related and 10 Ebola-related preprints were posted on the two servers during the entirety of those pandemics (2015-2016 and 2014-2016, respectively).

Despite the growing acceptance of preprints, many clinicians and researchers have valid concerns about the spread of misinformation on preprint servers (6). Bero et al. (7) analyzed 67 COVID-19 studies that were reported first as preprints and later as peer-reviewed journal articles. At least one discrepancy between the two versions was found in the results of 23 (34%) of the studies: 8 studies had results published in the preprint but not in the journal article, and 15 had results published in the journal article but not in the preprint. However, the peer review process is also imperfect. Science journalist Leonid Schneider (8) noted that although preprints have been used to spread fraudulent COVID-19 papers (e.g., presenting anti-vaccine propaganda or promoting unproven treatments), such papers have also been published in peer-reviewed journals. "[T]he biggest damage during this COVID-19 pandemic came from peer-reviewed papers published in respectable journals by respectable publishers," Schneider wrote. "Most of those are never retracted, while many problematic preprints have been pulled."

Most preprint servers have screening checks in place to ensure some level of quality in their articles. A study of 44 preprint platforms found that 75% screened articles to rule out unscientific content, plagiarism, and/or unverified claims (9). Furthermore, many medical preprint servers include a disclaimer in each article that the content is not peer reviewed and should not be used to guide clinical decisions.

Although peer-reviewed articles remain the gold standard in biomedical publishing, preprints have established themselves as a useful medium. For many researchers, the benefit of making their findings available quickly as a preprint outweighs the risk of publishing an error that can be corrected later in peer review.

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NIH biosketch changes

– Sunita Patterson

The biographical sketches, or biosketches, for the principal investigator and other senior/key personnel are an important part of NIH grant applications. Some minor but important changes to their format are being phased in. The NIH has been encouraging researchers to use the new format, which became effective on May 25, 2021, and its use will be mandatory beginning January 25, 2022.

Notice NOD-OD-21-073 details the changes:

- Section B, formerly "Positions and Honors," has been renamed "Positions, Scientific Appointments, and Honors" and now requires disclosure of all research positions, not just those relevant to the application. The instructions explicitly include non–U.S. appointments and unpaid appointments: "List in reverse chronological order all positions and scientific appointments both domestic and foreign, including affiliations with foreign entities or governments. This includes titled academic, professional, or institutional appointments whether or not remuneration is received, and whether full-time, part-time, or voluntary (including adjunct, visiting, or honorary)." Note that the order should now be reverse chronological (most recent position first) rather than chronological.

- A list of ongoing and completed research projects/support no longer appears in Section D of the biosketch. In non-fellowship biosketches, Section D has been removed. In fellowship biosketches, Section D now covers Scholastic Performance only.

- If you want to bring to the reviewers' attention any ongoing or completed research projects from the past 3 years that you would have previously listed in Section D, you can mention them in Section A, Personal Statement.

For the new biosketch forms, instructions, and examples, see the NIH biosketch web page. The NIH has a new email address for inquiries related to biosketches: nihosbiosketch@nih.gov. In addition, MD Anderson's Office of Sponsored Programs can answer questions about biosketch formatting and structure: ospconcierge@mdanderson.org.

Opening up the functionality of Microsoft Word with the Read Aloud tool

– Don Norwood

If you're looking to go beyond the usual reading, writing, and editing uses of Microsoft Word, the Read Aloud function is a good place to start. Like the name says, with this tool, a voice generated by the program reads the text in a document out loud.

Apart from the obvious benefit of making Word documents accessible to people whose vision is impaired, Read Aloud has a few handy uses. For example, it can be used to proofread a document. Following along with the text while the voice reads it is a handy way to make sure it says what you want it to. Also, it can help you better understand the content of a document, especially if you're an auditory learner. Hearing a passage of text read out loud adds a new dimension of understanding beyond that with just reading it yourself. Third, it's perfect for multitaskers. You can listen to a document being read while doing something else.

Using Read Aloud is quite simple.

- Place the cursor where you want the reading to start.
- Go to the Review tab at the top of the Word window and click "Read Aloud." If "Read Aloud" is not on that tab, go to the "View" tab and click "Immersive Reader" followed by "Read Aloud."
- In the box that opens up, click the "Play" button. That button then changes to a "Pause" button.
- Click the "Previous" and "Next" buttons to go to other paragraphs.
- Click the "Stop" button to end Read Aloud.

One thing to remember is that the cursor moves through the text when Read Aloud is playing. If you alter the text while this is happening, you may accidentally delete some of the text. Therefore, stop and exit Read Aloud before making any changes.

You can also change the settings for Read Aloud. This is done by clicking on the far right button in the box that opens when you click Read Aloud. There you can change the reading speed as well as the voice. In addition, to change the language in Read Aloud, go to the "Review" tab and click "Language." There you can select from a long list of languages. Just remember that the language you select will be used as the proofing language for the document. If you want to use English as the language when you check the spelling and grammar, you will have to repeat this process and select English.

Regarding the use of Track Changes in Microsoft Word, Read Aloud will read all of the text that appears in the document. If the All Markup feature is on in Tracking, it will read everything as it appears, which could be quite confusing. Therefore, either switch to No Markup or Original in Tracking or use a version of the document without tracked changes with Read Aloud.

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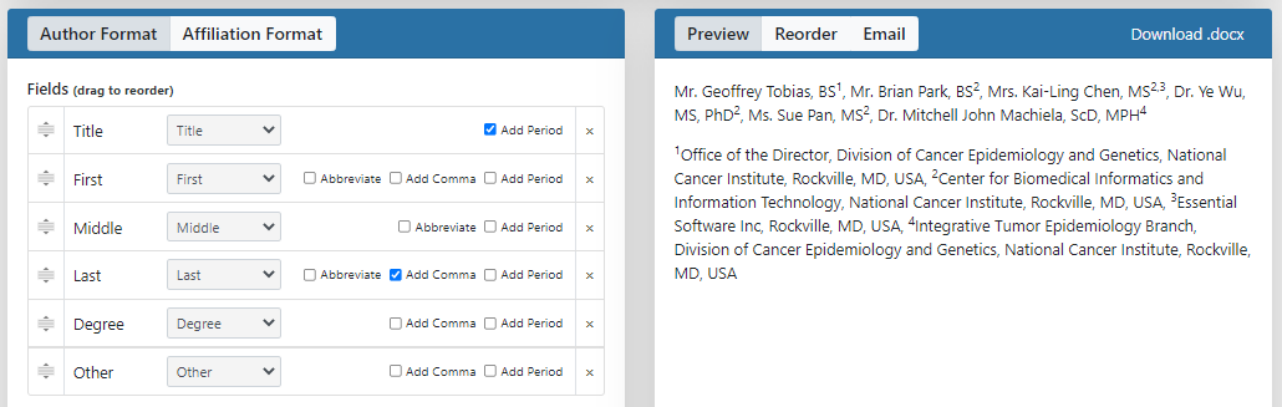
NCI's AuthorArranger tool for manuscript title pages

– Stephanie Deming

If you prepare manuscripts for submission to journals, consider incorporating the NCI's AuthorArranger tool into your standard workflow. AuthorArranger allows users to automatically format author names and author affiliations for the title page of a manuscript.

To use AuthorArranger, first you create a spreadsheet with author details. You can use the fillable template spreadsheet supplied by AuthorArranger or create your own spreadsheet file. Next, you upload the spreadsheet to AuthorArranger. Then you use the straightforward AuthorArranger web tool (Figure) to control how author names and author affiliations appear. As you click and slide buttons on the left side of the screen, a preview of the author details automatically updates on the right side.



Once the text in the Preview pane appears as you wish, you can copy the text and paste it into your manuscript, or you can download the text as a Microsoft Word document.

If multiple authors have the same affiliation, AuthorArranger will recognize this and show the affiliation only once, which is the approach preferred by most journals, rather than repeating the affiliation for each author.

AuthorArranger includes a helpful brief User Guide that explains how to upload author information, format author names and affiliations, change the order in which authors are listed, and remove authors (or restore authors if they are removed by mistake). The User Guide also explains that any uploaded information is automatically deleted from the AuthorArranger web server when the user's web browser is closed.

Consider creating an author-details spreadsheet each time you begin work on a manuscript. When it comes time to create the manuscript's title page, you will be able to quickly format the author details using your spreadsheet in combination with AuthorArranger. For greatest efficiency, you can maintain a central spreadsheet with details for all of the authors with whom you regularly publish manuscripts. Then, to make the AuthorArranger spreadsheet for a new manuscript, you can make a copy of your central spreadsheet, delete any individuals who are not authors of the new manuscript, and add authors as needed.

If you use AuthorArranger, the NCI asks that you acknowledge use of the tool in the Acknowledgments section of your manuscript.

NIH tips for writing a research plan

– Ann Sutton

A well-written research plan is vital to the success of an NIH grant proposal. In the NIH's *All About Grants* podcast episode, "Considerations for a Research Plan," Dr. Lillian Kuo of the National Cancer Institute and Dr. Kentner Singleton of the National Institute of Allergy and Infectious Diseases provide the following advice on writing the research plan.

Researchers should first determine the scientific focus of the application so that it can be written to appeal to the appropriate NIH review panel (see below). Researchers should then write the Specific Aims section so that it can be used to develop the other sections. The Specific Aims section is the most widely read part of an application; thus, it should tell a compelling story that will sell the science, rather than simply listing a series of experiments. The aims should be interrelated but not interdependent and should provide the review panel with a clear understanding of how the aims will help the researchers address their research question.

One thing researchers should keep in mind is that while review panels address specific scientific fields and diseases, the individual members may have different types of expertise. The research plan should be written so that all members of the panel can understand the problem being presented in the proposal, the approach and experiments being described, and how the proposed experiments will address the hypothesis or research question. The use of jargon should be minimized.

Three pitfalls to avoid when writing a research plan:

- Assuming that the reviewers will read the citations and be familiar with the researcher's previous work; if previous studies are important to the proposed research, they should be described explicitly.
- Focusing too heavily on data acquisition in the Specific Aims; researchers should clearly address how the data will be analyzed and how they relate to the hypothesis and overall significance.
- Incorrectly assuming that the significance of the research is obvious or that a focus on a specific disease or research area alone makes it significant; researchers should consider the significance of their science and how it will advance the field.

The NIH offers three tools to help researchers target their applications:

- *NIH RePorter:* Locates funded applications in the field and identifies the scientific review groups in which they were reviewed, the NIH institutes and centers that fund that field, and program officers who can provide guidance before and after review.
- *Center for Scientific Review's Assisted Referral Tool (ART):* Matches an abstract or specific aims to a study section or scientific review group. (For more information, see *The Write Stuff*, Autumn 2020 issue, "The Assisted Referral Tool (ART): A resource for selecting the best NIH study sections.")
- *Assignment Request Form:* Is used to suggest assignment to a particular funding institute, recommend a study section or review group, identify conflicts of interest, or suggest expertise using keywords.

The *All About Grants* podcast is produced by the Office of Extramural Research at the NIH. New episodes are added monthly, and the podcast is available on most major platforms, such as Apple Podcasts and Spotify. Episodes, transcripts, and more information are available on the NIH website.

Unusual terms used in scientific writing and publishing: Creative Commons

– Bryan Tutt

"Creative Commons" is a term you may come across if you look at a scientific journal's copyright information—especially if it's an open access journal. Creative Commons is an international nonprofit organization whose goal is to facilitate information sharing by providing legal information and tools. The most common of these tools is a set of licenses that state the conditions under which users can reuse copyrighted content.

Creative Commons offers six licenses denoted by sets of initials, which are summarized below:

- CC BY means that users can copy, redistribute, and adapt the material with only one restriction: Users must include attribution (i.e., acknowledge the creator's copyright). This is the least restrictive Creative Commons license.
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- CC BY-NC means that users can copy, redistribute, and adapt the material with two restrictions: Users must include attribution, and the material can only be reused or adapted for noncommercial purposes.
- CC BY-NC-SA means that users can copy, redistribute, and adapt the material with three restrictions: Users must include attribution, the material can only be reused or adapted for noncommercial purposes, and users who adapt and share the material must share the adapted material under the same license.
- CC BY-ND means that users can copy and redistribute the material with two restrictions: Users must include attribution, and the material cannot be adapted.
- CC BY-NC-ND means that users can copy and redistribute the material with three restrictions: Users must include attribution, the material can only be reused for noncommercial purposes, and the material cannot be adapted.

In addition to the six licenses, Creative Commons also offers a public dedication status, CC0, which means that the creator(s) have given up their copyright and placed their material in the public domain for users to redistribute, adapt, and share without restriction. More information about Creative Commons is available on their website.

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The scientific editors in the Research Medical Library help MD Anderson faculty and trainees get published and get funded. We provide a wide range of editorial, educational, and publishing services, free of charge, to the MD Anderson community, including

- editing grant proposals and research articles;
- providing one-on-one consultations with authors at any stage of the writing process;
- teaching workshops and giving lectures on writing research articles and grant proposals;
- teaching scientific English for non-native speakers;
- providing writing advice and support, including online writing advice.

For more information about our editing services and how to use them, please visit Our Editing Services, or contact us at RML-Editing@mdanderson.org.

Upcoming events for authors

Please see the Research Medical Library website for more information about educational courses, a schedule of upcoming events, and recordings of past classes.

Writing an Effective K99/R00 Grant Proposal. Over the course of six 1-hour modules, scientific editors provide practical advice on writing the Candidate Section, Specific Aims, and Research Strategy of a K99/R00 application.

Registration is required. To streamline and simplify the registration process, the six separate modules of this session are set up as a series; registration for one module will register you for all six. You can attend any or all modules. The series will be repeated every few months.

All modules will begin at 1:00 pm.

Monday, November 1, 2021: Candidate Section, Part 1, Candidate's Background

Wednesday, November 3, 2021: Candidate Section, Part 2, Career Goals and Objectives

Monday, November 8, 2021: Candidate Section, Part 3, Plan for Career Development/ Training Activities

Wednesday, November 10, 2021: Specific Aims

Monday, November 15, 2021: Significance & Innovation

Wednesday, November 17, 2021: Approach

REGISTER HERE

Registration is required through the Research Medical Library. Details: John McCool (jhmccool@mdanderson.org).

INTEREST Program. The INTEREST program is a series of mock study sections that leverage the expertise of experienced MD Anderson faculty in writing fundable research proposals. It involves a rigorous review of extramural grant proposals to improve, critique, and offer experience in the grant review process, from the applicant's and the reviewer's points of view. For more information, contact INTEREST@mdanderson.org.

Important upcoming dates:

December 27, 2021 – Deadline to submit your INTEREST Intent Form and a PDF copy of your grant abstract to INTEREST@mdanderson.org

January 3, 2022 – Full application submission deadline

January 12, 2022 – INTEREST Review Meeting

Online Courses in Scientific English for Non-Native Speakers of English. The Research Medical Library offers two online courses for non-native speakers of English on the Study@MDAnderson platform. Both courses are **self-study** and **self-paced**, but students have access to an instructor (Dr. Mark Picus) for support and questions. For more information and to register, please click here.