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

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
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The Write Stuff Autumn 2020 Vol. 17 No. 4

Published by the scientific editors and librarians in the Research Medical Library,
The University of Texas MD Anderson Cancer Center

In this issue...

New NIH training module: Vertebrate Animals Section

– Sunita Patterson

The NIH's Office of Laboratory Animal Welfare has produced a helpful online training module on preparing the Vertebrate Animals Section of NIH grant applications. The Vertebrate Animals Section (VAS) in Grant Applications training module takes about 30 minutes to complete (Chrome, Firefox, and Safari browsers are recommended).

The training module begins with information about the types of studies that are considered vertebrate animal research. As the module explains, in the Vertebrate Animals Section, "the investigator ensures the animal activity is appropriate for the proposed research and adheres to standards of humane care and use of laboratory animals."

In 2016, the NIH simplified the instructions for this section, and the training module explains that some information that used to go in this section no longer does:

- The number, sex, and age of the animals should be stated in the Vertebrate Animals Section, but justification of the number of animals to be used (as well as considerations related to biological variables such as sex and age) should be presented in the Research Strategy.

- Procedures to minimize pain and distress should be described in detail in the Vertebrate Animals Section, but information about the method of euthanasia is now covered elsewhere (the PHS 398 Cover Page Supplement or PHS Fellowship Supplemental Form).

- A description of general veterinary care is no longer required anywhere in the application.

The interactive training module allows participants to evaluate four samples of Vertebrate Animals Sections and provides links to additional resources, including a summary checklist and example.

If you are preparing an NIH grant application involving vertebrate animals, this clear and concise training module is highly recommended.

When a journal requests English-language editing

– Stephanie Deming

If you submit a manuscript to a journal and the journal requests "language editing," "improvement of the English," or something similar, the Research Medical Library's editing team (formerly Scientific Publications) can help. Our editors are experts in correct and clear use of the English language and in the conventions of preparing biomedical research articles.

You may occasionally receive a request for language editing of a manuscript already edited by one of our scientific editors. In such cases, the manuscript may or may not actually have language problems. Some journals always request language editing, regardless of the quality of the language in the manuscript—in other words, some journals include a request for professional editing as "boilerplate" language in their correspondence with authors. If you are not sure whether the language is okay, you can send your editor the version of the manuscript that you submitted to the journal. The editor will read that version and either reassure you that the language is fine or help you resolve any remaining language issues.

Some journals request a certificate of editing. We are happy to supply one upon request for manuscripts that we edited. You can request an editing certificate from the editor you worked with.

CRediT aims to clarify contributions to scientific publications

– Amy Ninetto

As research shifts toward team science and multidisciplinary collaborations, it has become more important—and more difficult—to apportion credit for scientific publications in an easy, fair, and transparent way. Hiring committees, tenure and promotion committees, journal editors, and grant reviewers, among others, need a way to assess the roles and expertise of individual authors, but the customary listing of first, second, third, and senior authors can't provide this

granular information. The Contributor Roles Taxonomy (CRediT), implemented by NISO, the National Information Standards Organization, is an effort to standardize the descriptions of contributor roles in scientific publications. The CRediT taxonomy consists of 14 roles that describe the various contributions made by members of a research team.

CRediT contributor roles
Conceptualization
Data curation
Formal analysis
Funding acquisition
Investigation
Methodology
Project administration
Resources
Software
Supervision
Validation
Visualization
Writing—original draft
Writing—review and editing

Many journals already ask for a description of each author's contributions when a manuscript is submitted for publication; some ask authors to select their contributions from a list, whereas others allow free-text descriptions. CRediT aims to standardize these disparate systems of documenting contributions into one system that can be clearly applied and easily accessed across different disciplines and publications and by various end users. For example, advocates of CRediT believe its adoption could help a tenure committee to quickly discern a candidate's precise contributions to non–first-authored papers, a journal editor to identify experts in a particular area to serve as peer reviewers, or a funding agency to assess how its grant funds are being used (1, 2).

An additional advantage of CRediT is that it ensures that contributors of specialized research services, such as statisticians, programmers, and veterinarians, are properly recognized for their work (3). Finally, the CRediT system could help resolve disputes between authors over the apportionment of credit for work and responsibility for errors.

The CRediT taxonomy has been integrated into the manuscript submission systems of Cell Press and PLOS journals and some AACR journals. Still, most biomedical journals—including many that use the CRediT taxonomy—also adhere to the International Committee of Medical Journal Editors (ICMJE) criteria for authorship, which are less flexible than the CRediT taxonomy regarding the roles of some types of contributors. For example, CRediT lists "acquisition of funding" among its contributor roles, but according to the ICMJE criteria, having acquired funding is not sufficient for an individual to claim authorship; more substantive contributions to the research and writing are also needed. Therefore, it's essential to carefully read your target journal's author instructions before you finalize the author list on your manuscript.

Its creators hope that CRediT will enable a shift in thinking about the byline of scientific articles—from the current ranked list of *authors* arranged by their relative overall contributions or their relative contributions to writing the manuscript to a broader list of *contributors* whose roles are clearly described by the taxonomy. Some of CRediT's creators, promoters, and adopters argue that "contributorship" better reflects the nature of contemporary team science than "authorship" (4, 5).

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The Assisted Referral Tool (ART): A resource for selecting the best NIH study sections for your grant proposal

– Don Norwood

When investigators submit their grant proposals to the NIH, they can hope that the proposals are sent to a study section that is familiar with their research topic, or they can suggest study sections for their proposals. However, this brings up the problem of deciding which of the dozens of sections applicants should choose. The NIH has provided a potential solution to this problem: the Assisted Referral Tool (ART).

Created by the NIH Center for Scientific Review, the online ART recommends appropriate study sections for grant applicants. It's particularly helpful given the large number of NIH study sections (175 as of August 2020).

Each study section recommendation is based on the application's scientific content alone. Once an investigator enters application text in ART, the tool uses natural language processing and large-scale machine learning to compare the text entered with that in previous applications (up to 10 years' worth) to identify which study sections have evaluated relevant topics. ART then produces a list of study sections with "strong" and "possible" relevance to the entered application (usually 3-6 sections per group).

To enhance the performance of ART in recommending study sections, enter the title of your application into the title box in ART, and enter your proposal abstract and specific aims in the main text box. Applicants must include at least 10 scientific concepts in the application title and main text; these can include disease names, drugs, molecules, and methods (as defined in the Research, Condition, and Disease Categorization thesaurus. ART does not keep the text of your application or its indices after this procedure.

Unusual terms used in scientific writing and publishing: Cascading peer review

– Bryan Tutt

Approximately 40% of manuscripts submitted to scientific journals are rejected after peer review (1). When a rejected manuscript is submitted to a different journal, it might have to go through the peer review process a second time, which requires additional effort from authors and may require editors and peer reviewers at the second journal to duplicate work that was done at the first journal. To reduce the amount of wasted time and effort, some academic and scientific publishers use a process called cascading, or waterfall, peer review (2,3).

In cascading peer review, a journal's editors, on the basis of the reviewers' comments, reject an article but recommend its consideration by a different journal within the same publishing group. For example, editors and reviewers for *JAMA* might decide that a manuscript related to surgical oncology is a better fit for one of the JAMA Network's specialty journals, such as *JAMA Oncology* or *JAMA Surgery* (4). If the author agrees, the manuscript is automatically submitted to the next journal along with the reviewers' comments. Thus, the peer review flows, or cascades, from one journal to the next.

Cascading peer review has been around for about a decade (5), and publishers have adopted various innovations to speed up the process and to make it more transparent to authors and reviewers (6). However, its use has been limited mostly to journals within the same publishing group because of differences in journals' editorial practices and incompatibilities between publication management software platforms. In 2016, scientific publishers and representatives from journal production and hosting platforms sought to address these limitations by standardizing publishing practices and formats (7). This initiative, known as the Manuscript Exchange Common Approach (MECA), has safeguards in place to ensure that manuscripts and peer reviews are not transferred without the authors' and reviewers' consent. If widely adopted, MECA could greatly reduce the time and effort required of both authors and peer reviewers.

For more information about peer review and responding to reviewers' comments about your manuscripts, visit the Research Medical Library's Responding to Peer Review page.

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Editing services

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 Classes & Events Calendar website for more information on our educational courses.

Webinars Presented by the Research Medical Library. The Research Medical Library continues to host a series of webinars on various topics. Webinars previously presented and recorded are available here. Links to upcoming webinars will be posted as they become available on the Research Medical Library website.

Tool Time Tuesday with the Research Medical Library. In this Zoom series, our librarians, editors, or special guests from around the institution discuss at least three tools, resources, or services available for MD Anderson faculty, staff, and students. These discussions include technology tools, apps, and more to help you in your work.

Presentations run every other Tuesday from 10:00 to 10:30 am. Click here to receive handouts and to link to an archived recording after the event.

Click on an upcoming online session to register:

November 10, 2020

November 24, 2020

December 8, 2020

Writing and Publishing Scientific Articles (WAPSA). WAPSA is a structured, practical, in-depth writing-education program for postdoctoral fellows and clinical trainees at MD Anderson taught by editors in the Research Medical Library. This workshop, currently being offered via Zoom online, provides an excellent opportunity for advancing participants' skills in writing and publishing research articles while developing their in-progress manuscripts under the guidance of scientific editors.

All of the following upcoming online sessions begin at 2:00 pm.

November 2, 2020: Getting Started

November 4, 2020: Introduction

November 9, 2020: Methods and Results

November 11, 2020: Discussion

November 16, 2020: Abstract and Title

November 18, 2020: Cohesion and Clarity

Registration is required through the Research Medical Library. Details: John McCool (RML-Education@mdanderson.org), 713-792-3174.

K99/R00 Workshop. The Research Medical Library is now offering an online course on writing an NIH K99/R00 grant proposal. Over the course of seven 1-hour modules offered during the fall and winter, scientific editors will provide practical advice on writing the Candidate Section, Specific Aims, and Research Strategy of a K99/R00 application.

Registration is required and is limited to 50 participants per module. Each module requires separate registration. The course will be repeated every few months, and those who attend all seven modules will be awarded a certificate of completion.

Upcoming online sessions:

December 3, 2020: **Research Strategy, Part 1: Significance**

December 10, 2020: Research Strategy, Part 2: Innovation

December 17, 2020: Research Strategy, Part 3: Approach

Times and registration information will be announced on the Research Medical Library Classes & Events Calendar website. Registration is required through the Research Medical Library. Details: John McCool (RML-Education@mdanderson.org).

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.

Introduction to Systematic Reviews. This monthly series of classes on systematic reviews provides information on standards, protocols, selecting studies, software, and other topics. Each month features different topics depending on interest.

Upcoming online sessions:

November 13, 2020, 11:00 am

December 14, 2020, 10:30 am

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 22, 2020 – Deadline to submit your INTEREST Intent Form and a copy of your grant abstract

December 31, 2020 – Full application submission deadline

January 13, 2021 – Online INTEREST Review Meeting