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Editorial

An Open Letter to Aspiring Authors

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Dear Aspiring Author,

Are you ready to write your first scientific paper? This means you have already achieved significant progress in your research—congratulations! Maybe you are a graduate student or still an undergraduate; we are writing to you with all the advice we wish we had received while in your shoes.

First - do not fret—you will be able to get all the help you need. You might be in the fortunate situation of having a mentor who is training you in this process or even formal courses as part of your studies. But even if you do not, there is nothing to worry about—there are many resources available to help you get started. It is easy for your coauthors to forget this is your first time writing a paper; in fact, the more competent you are, the more likely they are to forget! They might not think to suggest you read about how to write a paper before you start writing, but that is what we recommend you do. There are fantastic books about writing, but maybe that feels a bit intimidating and you really want to get started soon. For shorter introductions to writing, take a look at the resources available from scientific publishers. Some offer online courses, and there is a wealth of information in Editorials. If we had to recommend just one, start with this classic one published in *The Journal of Physical Chemistry Letters*, which is also linked to a whole series of others. Otherwise, ask your friends, senior colleagues, or anyone willing to talk about their writing experience and take all the advice you can get. It might not all make sense when you first hear it, but the more you listen to other people's stories, the quicker you will be to catch yourself before you fall into some common traps.

Write the kind of papers you love to read. It is tempting to use the papers you have been reading as models for your own writing, but keep in mind the papers you read may or may not be great examples to follow. Be confident in your own voice and write the paper that would have helped you when you started out in the field. For every professor who might read your paper, there are likely to be many more readers just like you. All readers will be grateful for every effort you make to explain your ideas in a clear and informative fashion. Similarly, writing in English might be a significant challenge for you, but know that reading in English can be a significant challenge for many of your readers, so it is best to keep the writing concise! You want to provide the clearest presentation of your science in the simplest style.

Know that this is not like writing you have tried before. You might read for 3 h to write one sentence. You might plot your data three different ways before you understand the clearest, most effective way to show your results. You might take a whole day to make a single figure or 20 min to write a figure caption. It will likely take a long time and significant effort to write your first paper; the good news is that it gets easier with the next paper. You probably did not go into science because of your literary prowess, but clearly communicating your results is a skill you need to master. If you love writing, that is wonderful. If you do not, resolve to master the art, so that you can ultimately save time on writing and have more time for work in the lab/calculations. Either way, you do yourself a major favor by taking this on as an integral part of your research.

Do not make your life harder than it needs to be. Some of the best advice we have had is to write the paper your results support, not the paper you hoped to write at the start of the project. Many papers have been challenging to write, yielding an unconvincing final story when authors tried to write the paper they hoped for when they designed the project (but the results did not really support). Very often there is an alternative (hopefully positive) story to write about the results you have, rather than a weak/negative story about the results you do not have. Similarly, if you want readers to be able to conclude something from your figures, ask yourself (and colleagues) whether you have presented the data in a way that clearly supports the conclusion. Many papers are written with data that are not consistent with the conclusions discussed (possibly something the authors saw when working with the data prior to producing the final figures).

You are not alone in this endeavor, even if it feels that way at times. Most likely you have coauthors, but it can vary a huge amount how involved they are in the writing process. Some coauthors will want to be very involved in the writing and write some parts themselves. Others might not want to write any part of the first draft but want to be involved in workshopping the narrative of the paper before you start writing. Others may be happy for you to write quite independently and only give their feedback on a near-to-final version of the manuscript. The most important thing for you is to know what your coauthors' expectations are. As the person responsible for coordinating the writing of your paper, you have a management task in front of you. You need to manage your coauthors' expectations and make sure you work in a way that minimizes the chances that you end up with a big job rewriting the paper because your coauthors are not satisfied. Talk to your coauthors very early in

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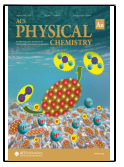

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the process and ask them explicitly how much they would like to be involved. If you do not get a clear answer, consider circulating an outline (see this Essay: Whitesides' Group: Writing a Paper) to give them an opportunity to comment before you get too deep into the writing.

Write a paper you are proud of. This paper is the lasting mark of your research in the world. It is the published record of all your hard work. There is a huge amount of "invisible" work that goes into writing a paper and we encourage you to embrace this challenge as a point of honor. If you cut corners in your writing process, you might "get away with it" in the sense that your coauthors or referees/editors may not call you out, but you are short-changing yourself. It is easy to feel that all the work you have already done is the significant part of your research, but the paper you write is what the world sees. For example, referencing is an area that can take huge amounts of time—you might need to read 10 papers (again!) to be sure to have that one sentence referenced correctly. Will your paper be rejected if you only read 3 of those 10 papers? Perhaps not, but this lack of attention to detail can be detrimental for your field as a whole. For an outstanding account to inspire you to do your best referencing, we recommend this Essay on *Homo Citans* and Carbon Allotropes: For an Ethics of Citation.

We hope you enjoy writing this paper and the many more that may follow. If you submit to a peer-reviewed journal, we hope the refereeing process is constructive and, even if you have go back to the bench or computer and do some more work on it, that you find your paper is improved by the process. This is only the beginning, so we hope you enjoy the adventure! Finally, if your work takes you into the realms of physical chemistry, we hope you will consider *ACS Physical Chemistry Au* for your submission; we look forward to seeing everything you have achieved.

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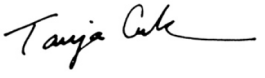

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Notes

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