

Writing Journal Articles

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1 Introduction

These notes include some advice on how to write a paper for publication in a peer-reviewed journal. Considerably more extensive advice on this subject is available in other sources such as the *ACS Style Guide*.

2 Goals for a Paper

As Fritz Schaefer used to say, “if it isn’t published, it doesn’t exist.” Although you might present unpublished work as a poster or a talk, only a publication will elevate it to the status of a legitimate, completed project worthy of discussion. One of the most important items on your resume is how many publications you have and what journals they appear in. The first goal for a paper, then, is to conclude a project and earn credit for the work.

To achieve the first goal, it is necessary to write a paper that will pass peer review. A paper that is clear and well-organized is more likely to be accepted. Journals also only want to publish original research that will have a significant impact. Therefore it is necessary to explain how your paper differs from previous work, why your paper is important, and what new insights it presents.

The second goal for a paper is to inform the community about what you have done and why it is important. The most successful publications are those that teach others about a new discovery or a new way of looking at things. This enhances the ability of other researchers to make progress in their own projects. In more applied areas of research, published research may ultimately result in new products, devices, diagnostic procedures, etc., that can benefit society.

To achieve the second goal, you need to decide what audience you wish to reach, and write the paper appropriately. This also affects the choice of the journal to which the paper should be submitted.

Finally, a paper should have one major point, or one main thing that it is about. Trying to accomplish too much in one paper can dilute your message and make it harder for readers to understand what the paper was about.

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