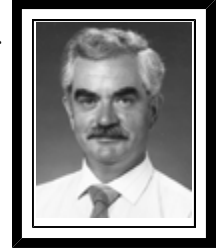




This story appears in [The Minerals, Metals & Materials Society's student newsletter Professional Preface](#), vol. 3, no. 5, p. 2.

Ensuring Your Technical Article is a Hit

About one year ago, I wrote an [article](#) for [Professional Preface](#) on making your first technical presentation a hit. Apparently, this was of some use to the mythical average young scientist/engineer. So, here is a follow-up addressing the next step on that long road to becoming famous--your first technical paper.



Under the guidance of a mentor (e.g., student thesis advisor or group manager) you have conducted some original research/development work that is ready for publication, and you have received permission from your organization/sponsor to publish. If your company feels that you have discovered the alternative to sliced bread and they want to reap the benefits via "secret" procedures or patents, a near-term publication may not be in the cards. Don't fight it! There will be plenty of future opportunities.

You are cautiously pleased with your work, refraining from "blowing your own trumpet," and are being guided by your mentor. You construct an outline of the paper after consulting with your mentor and reviewing the format (guidelines) generally used for papers in your journal of choice (which was chosen in conjunction with your boss). The choice of which journal is made after considering factors such as the scientific/technical level of your paper on the "fundamental science" to "sales pitch" spectrum, and whether similar work is generally published in that journal. Listen to your mentor. Page charges can also play a role (though many journals will waive their charges if you can justify your position) if no funds are available for this in your contract or other extenuating conditions exist.

If you have been sponsored by an outside source (e.g., government funding agency or other company) you ask your mentor to bounce the outline off the sponsor--including a discrete inquiry on whether he or she would like to be an author (this can vary from sponsor to sponsor, different people have quite different feelings on this, varying from "Well, I gave you the money" to "Don't you dare include me as an author, are you trying to buy me off? I made little technical contribution.>").

Your outline has been massaged into shape. All authors have been decided, including the order of authors. A specific subject often has the more junior person who actually did the work as first author, review articles more appropriately have a more senior person (with a broader perspective of the subject) as first author.

You sit down, and, in good English (at least, in your opinion), you put meat on the bones. You have referenced other works besides that of your mentor, haven't you? After a few iterations (hopefully), you, your mentor, sponsor, et al. finalize the manuscript. It is lean and mean. You wrote (or operated your personal computer) as succinctly as possible (I arrogantly claim that I can take any student's paper, cut it by 50% and still get the message across--much more readably), avoided the third person (one should avoid this style), and did not allow phrases such as "based on this, it is reasonable to say . . .," and "in view of the above, it should be noted that . . .," to creep in. You "spelled" all words correctly, and, if the paper was typed by a secretary, allowed him or her to give you advice. You acknowledge help from others, including your coworkers, technicians, secretary, and the sponsor of the work (including

organization and contract number). You or your mentor might then send a draft of the paper to others working in your field for their comments. Finally, you obtained all necessary approvals for the paper (this can sometimes take quite a time, especially when an attorney [e.g., for patents] gets involved).

The manuscript is submitted to the journal of choice, generally by your mentor, after carefully determining how many copies, original photomicrographs, or other graphics should be submitted. You wait for a reaction. Generally the paper will be acknowledged, then a few months later will come back with some referee's comments--some mandatory changes, some "please consider" comments. You and your mentor address the changes/comments and document how you have changed the manuscript in a cover letter to the editor of the journal. There is no reason to be confrontational! Most referees are being constructive with their comments (not all, unfortunately--if you want a list of referees who make destructive comments, send me a self-addressed, stamped envelope and a \$10 handling charge). If you disagree with some of the referee's comments, carefully explain why. In the event of a stand-off, the editor will adjudicate.

Final art-work (of high quality) is complete; all microphotographs have clearly depicted micrometer markers on them (heaven forbid you only told the reader the magnification, then there was a 30% reduction in size for the journal). You send the manuscript to the editor, along with the copyright form and a reprint order form. You receive the galley proofs and review them carefully, promptly returning them to the editor (generally, editors ask for the return of the galley proofs two days before you received them). Many months later (not for *JOM*) there is your first journal article in print. Your second step (after your first technical presentation) to becoming famous is complete. You get lots of requests for reprints, which you diligently fulfill (with "compliments of . . ." on each paper you send out).

As with your first technical presentation, the flip side is if you don't have anything worth writing, do not bother--wait until you do. There are too many mediocre/bad papers.

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