

How To Get A Paper Accepted In TRANSACTIONS?

Dr. Bimal K. Bose, *Life Fellow, IEEE*
Department of Electrical and Computer Engineering
The University of Tennessee, Knoxville, USA
Tel: (865) 974-8398
Fax: (865) 974-5483
E-mail: bbose@utk.edu

I. INTRODUCTION

Have you ever published any paper in IEEE Transactions? Or else, if you are already a Transactions author, how many papers have you published in Transactions? There is no doubt that Transactions publication (with your photo and CV appended) is very prestigious and brings you a lot of status in the professional community. It is often said that one Transactions paper is worth of four conference papers. This, of course, may or may not be true. A renowned professor in a good university always demands one or more Transactions publications from his doctoral student. If you are a young professor, Transactions publications will help your promotion and tenure. If you are an established professor, more Transactions publications will promote your fame that will help you to be an IEEE Fellow, and may subsequently bring other IEEE and non-IEEE Awards and Honors. Gradually, the door of your life may open for new avenues of success. Needless to say that publications are extremely important in the academic community for survival following the axiom “publish or perish”, particularly, if you are a young and untenured faculty. For an engineer in industry, Transactions publications truly reflect success in career. If you are a researcher in industry and are aspiring for a university career in future date, you must establish your publications base. Above all, publications bring tremendous amount of satisfaction in career accomplishment.

II. WHAT IS PUBLISHABLE IN TRANSACTION?

The results of research which have archival value are normally accepted for Transactions. It is important that the material is of current interest or has potential importance in future. If you have made an invention and/or made investigations on a technical topic that are important for applications, or further technology advancement in future are worthy of archival literature. Some Transactions permit Letters to the Editor describing the results of research briefly. Of course, often state-of-the-art survey papers by experienced professionals are also published in Transactions. It may be of interest to note that the Proceedings of the IEEE publish mostly survey type papers which are more prestigious, and almost every year Proc. paper wins the best paper prize (Donald G. Fink Award) among all the IEEE

publications. The research results in archival literature may be important for immediate applications, or after a prolonged period of time. Nobel Prize or top awards are often given to the scientists in old age long years after the contribution was made when it establishes importance in the society.

For a technology topic, the results of research may include description, mathematical analysis, simulation study and experimental results. For a new and emerging type technology, description with analysis, or adding simulation results may suffice as the content for a Transactions paper. Simulation or “virtual experiment” software has recently been very sophisticated and user-friendly. Validation of concept or analytical results by simulation study is important, but simulation is only “as good as the model”. This means that if the model is not accurate enough, the simulation only gives approximate results. For a general technology topic, experimental results are often demanded for validation of theoretical and simulation results for acceptance as a Transactions paper. When a contribution has been made, you need to judge carefully whether the material is important enough for Transactions paper, or should be published as a conference paper. Note that some IEEE Societies (such as Industry Applications Society) require mandatory pre-publication as a conference paper before considering Transactions publication. In that way, the basic quality of the submitted paper is assured before peer review.

III. ORGANIZING THE PAPER

Once you have decided that the material is Transactions paper worthy, the first step is to organize the content very carefully. A typical flowchart for writing the paper is given in Fig.1.

Writing a good paper tests your expertise in writing skill of communication. It is like telling a story to somebody which should be clear, concise and well-organized with logical flow of expressions. It is always a good idea to review some good papers published by well-established and reputed authors. The title of the paper should clearly reflect your contribution in the paper. For every paper, there is a primary contributor who should be the first author. Then, co-authors should be selected in the order of their magnitude of contribution. It is unethical to be a co-author of a paper without making any contribution in the paper. In the same way, it is not ethical to add the name of the project manager, financial supporter or department head as co-author unless

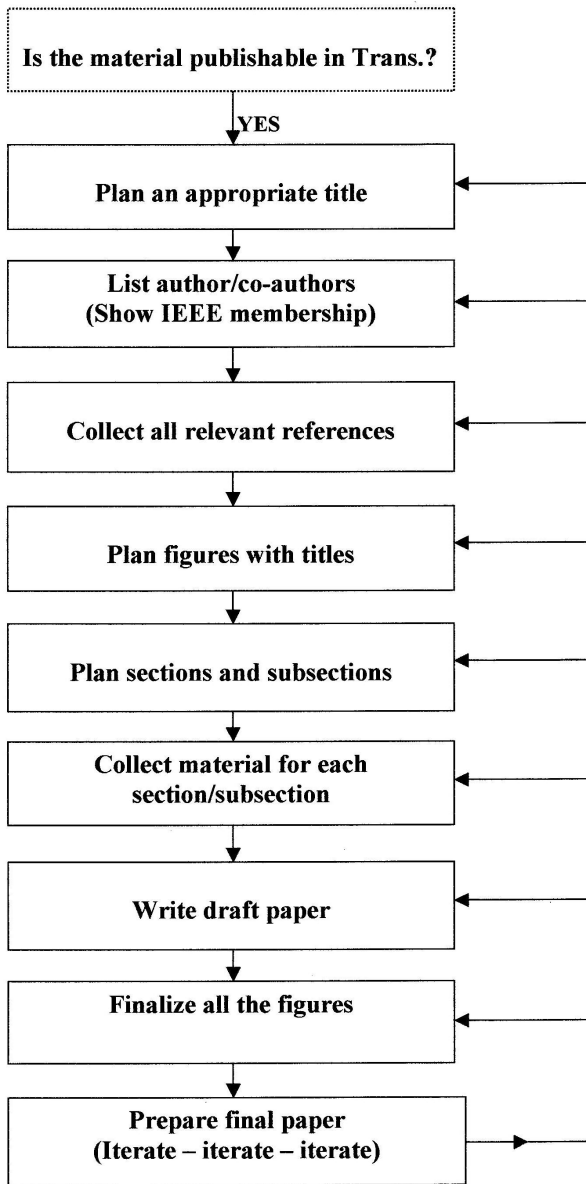


Fig.1 Flowchart for writing a Transactions paper

they have made contributions. Note that plagiarism is an offence, and multiple publication of the same material is highly unethical. The next easy step is the collection of the references for the paper in IEEE format. The references are important for writing the Introduction of the paper. A reviewer of the paper who judges the paper's acceptance may be angry if he sees that his relevant contribution has not been cited in the paper. It is wise to cite one or two books in the beginning which describe the background material of the paper and add a few extra references on the relevant subject. The planning of figures with appropriate labels and titles is very crucial step for preparation of the paper. The figures should be fully explanatory and convey clearly contribution in the paper. A figure is worth of thousand words. Simplified schematic diagrams, functional block diagrams, or simply

blocks may be used as appropriate. For graphs, the grid should be light with clear description of the variables and their scales. However, the figures can only be finalized after preparation of the full draft paper. Then, plan the different sections and subsections with appropriate title, and assign the figures in the sections. Organize the main equations with appropriate symbols and definition of the symbols at this stage. Equations are often defined as ornament of the paper, and if possible, at least a few equations are always desirable. Use commonly used symbols used in the text books, and they should be always be defined locally (instead of using list of symbols in the beginning or end of the paper). The derivation of the equations, if necessary, should be included briefly in the Appendix in order to prevent diversion of the reader's attention of the main contribution. Organize all the points in detail and in proper sequence for each section and subsection before starting the paper writing.

IV. WRITING IN CORRECT ENGLISH

Once the material of the paper has been organized properly, the next step is preparation of the draft paper with full concentration. Correct English composition, grammar and spelling are extremely important in paper writing. This may be a challenge for authors from non-English countries like China, Korea, Japan etc. Often, a paper with excellent contribution gets rejected because of poor English. Any fuzziness or ambiguity of expressions should be avoided. Occasional English error annoys the reviewer of the paper and may be a ground for rejection. Because of the language problem, publication in Transactions becomes extremely difficult for non-English speaking countries. Even knowing good English is not enough. Excellent technical writing for Transactions remains a difficult art. Needless to say that in spite of excellent contribution, majority of papers gets rejected because of poor organization of the paper and poor English. Again, it is not surprising to see that a paper with mediocre contribution gets accepted because it is well-written. If a university professor assigns the responsibility of writing to his graduate student, it is almost certain that the paper will be rejected. Again, even if the paper is written by an experienced professor himself, the likelihood of rejection is not uncommon.

After writing the Abstract, the most difficult part of the paper is writing the Introduction. Here, in the beginning, you must highlight broadly the general importance of your work and why it is important in a convincing way. The next step is description of the past contributions with references on which your contribution is based, and then emphasizing why your contribution is novel and superior to others. Any suspicion that the contribution is not of your own and stealing from others should be dispelled clearly. It is better to cite the past contributions indirectly avoiding the name of the contributors. After writing the Introduction, the remaining steps consist of simple and clear description of the content in logical sequence. Finally, the results and significance of the contribution are discussed in Conclusion. Some amount of overlapping of Conclusion with the Abstract is not

uncommon. An Acknowledgement should be included after Conclusion if you got help from others (like managers, financial supporters, head of the department, colleagues, etc.). After writing the full draft paper, iterate it several times for improvement and polishing of English. It is always a good idea to prepare an extended manuscript first and then cutting down during iteration to satisfy the length constraint. After completing the paper, satisfy all the questions given in Fig.2. If necessary, iterate it again.

V. THE REVIEW PROCESS

Every Transactions paper is peer-reviewed by multiple reviewers and their judgment determines acceptance or rejection of the paper. Normally, if two reviewers recommend acceptance or rejection to the Editor (or Associate Editor), the authors will be notified accordingly. Otherwise, third review becomes essential. Unfortunately, finding appropriate reviewers and proper review process of the paper remain far from ideal. To some extent, these determine the luck of the author. Often, a reviewer's expertise does not exactly match with the subject and he may not understand the paper well, although he agreed to review the paper. The reviewers often procrastinate the review process and require several reminders. The reviewers are normally very busy professionals, and hardly can afford half-a-day for review of a paper. First, he will try to get preliminary impression of the paper by glancing at the title, name of author(s), Abstract, figures and the Conclusion. Some amount of personal biasing is not unusual. He will be angry if his relevant work has not been cited. As mentioned before, occasional English error will annoy the reviewer. Unfamiliar symbols in equations, fuzzy and ambiguous expressions will irritate him. If the reviewer does not understand well the paper, it is likely to be rejected. Clumsy figures will be the ground for rejection. Also, if the topic is simple and description of the paper is easy, the contribution will be considered trivial. Since the reviewer always remains in the background, he does not have to prove his technical competence and he does not fear to recommend rejection of the paper with cruel comments. Of course, for rejection, he has to give justifiable reasons. Recommendation for major revision may be a reason for rejection. Often, the reviewer's justification for rejection may be simply "The contribution

in the paper is not significant enough to justify the Transactions publication". It is not uncommon for some reviewers to be negligent in the review process. Whatever is the reviewer recommendation, it is normally accepted almost blindly by the Editor. It is not a surprise that typically one in three submitted papers is accepted in Transactions.

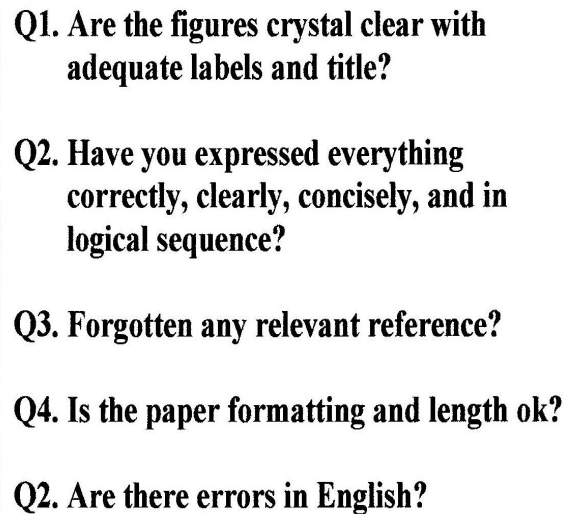
- 
- Q1. Are the figures crystal clear with adequate labels and title?**
 - Q2. Have you expressed everything correctly, clearly, concisely, and in logical sequence?**
 - Q3. Forgotten any relevant reference?**
 - Q4. Is the paper formatting and length ok?**
 - Q2. Are there errors in English?**

Fig.2 Questions to satisfy after completion of the paper

Finally, after all these ordeals and waiting for a prolonged period, you will be lucky if you get an acceptance letter from the Editor. You can now celebrate for winning a difficult battle in life. Note that majority of the accepted papers come with the recommendation for minor revision. In submitting the revised paper, mention clearly and highlight exactly what revisions were made in the paper. Accepted papers with revision are rarely rejected. Once the paper has been published, you can now proudly look into www.ieeexplore.ieee.org, and count how many people are referring it and where it is referred in www.scholar.google.com. The latter website indicates the importance of your contribution.

Good luck to you.