# **Nigerian Journal of Technological Research (NJTR)**

# **Tips for a successful manuscript preparation and submission**

Writing a manuscript in the format of a journal publication is sometimes the best way to put your ideas and results on paper. Futhermore, you will often find that writing the manuscript reveals experiments that must be performed in order to complete your work and make it defensible. But it pays to follow some simple guidelines when preparing a manuscript. Most of all, pay attention to details; It will save you time in the long run.

If you are taking the lead among your co-authors when preparing a manuscript, it is a good idea to write a first draft, and any subsequent drafts, of the highest quality possible. That is, make every draft as perfect as you can throughout. You will find that this reduces the time for revisions by you and your co-authors. Here are some tips to preparing a high quality draft.

1. Talk to your co-authors about your intention to prepare a manuscript and agree that you will lead the writing effort
2. Prepare an outline and discuss the theme and outline of the paper with your co-authors. With your co-authors, decide on a suitable journal for the manuscript. This is important because different journals have different formats. The outline for your manuscript should follow a conventional format that parallels the format of full articles in most journals. Communications will not necessarily have all these items as subject headings, but they will require that elements of each be included.

Typical Outline for a technical manuscript

* 1. Title
  2. Abstract
  3. Introduction
  4. Results and Discussion
  5. Experimental
  6. Acknowledgments
  7. References
  8. Figures and Captions

1. Before writing the first draft, obtain the instructions for authors from the journal to which you will be submitting the manuscript. Review several recent papers published in that journal, preferably papers related to your work. These will provide you with direction about the format you should use. Pay attention to the details from the very beginning. Is the experimental section at the beginning or the end? How are the references cited? Are the sections denoted by headings with bold text and larger fonts? How are the authors and their affiliation listed – at the top of the article or partially in the footnote?
2. Your first draft should be written in the format of the journal of choice., with a title, abstract, introduction, results and discussion section, experimental, acknowledgements, references, figures and figure captions. Your first draft should be thorough and carefully written, and the figures should be of the highest quality. If you do this properly you will minimize revision time. Any manuscript should take less time for somebody to read than it took you to write.
3. When writing a manuscript, first make a WRITTEN list of the key points that you want to make in your paper. Then write the abstract. Some believe that the abstract and introduction should be written after the paper is completed, but writing the abstract forces you to distill your ideas into a concise statement of approximately 100 words. If you can do this, you truly understand the significance of your work. The abstract should be written to convey the key observations and results, followed by the key conclusions. Examine previous published manuscripts from the group for guidance.
4. Next, write the introduction. Again, many believe this should be the last section written. On the contrary, it is better to write the introduction first to better frame your results and discussion in the context of the field. The introduction should start with a broad, but brief, description of the field, issues that remain to be resolved, and a brief statement of the work contained in your manuscript and the general, but most important conclusion. Again, examine previous published manuscripts from the group for guidance.
5. Next, prepare the figures. This will make your writing easier because you will find yourself referring to the figures in the text, and your words will depend upon the figures and their content. Prepare complete figure captions. The captions should be written so that the reader will understand them with minimal reference to the text. Lettering and numbering on the figures should be prepared in the largest font size possible, preferably with a font like Arial or Helvetica. Most journals require that you submit your figures in the size they are to be published, which generally will be single-column width. Therefore, size your figures to fit in a single column to determine if they are legible. If you have multiple panels in a figure, avoid empty “white space” so that any reduction will be limited to the actual figure. Again, examine previous published manuscripts from the group for guidance.

You will need to submit one set of original figures with the manuscript. Each figure should be printed on a separate page. The figure should be placed in the center of the page and labeled, in the lower left corner of the page, with the figure number, the first 5-6 words of the manuscript title, and the surnames of the authors on three successive lines. If there are more than two authors, give the surname of the first author only, followed by “et al.,” for example:

Figure 2

Architectural Isomerism in Hydrogen-bonded Inclusion …

M. J. Horner, et al.

If possible, all figures should be drafted originally in CANVAS. DO NOT USE POWERPOINT TO DRAFT FIGURES, as the quality will not be sufficient and they cannot be saved in .TIF format, which may be required by the journal.

1. Next, write the experimental section. This will avoid unnecessary duplication of experimental details in the results and discussion section. The experimental section should be sufficiently detailed so that an undergraduate at a different institution who has never worked in the field can duplicate the results.
2. You will notice that by now all the hard work is done. Now you simply need to write the results and discussion section. This section should be a well organized narrative of your observations and a discussion of what the data and observations mean with respect to the principal scientific themes and goals of your work.
3. Add acknowledgments.
4. When writing each section you should have been adding references. It is IMPERATIVE that you include references by using the automatic referencing feature in Microsoft Word (almost always as “endnotes”). This is crucial because the text will undoubtedly be revised and reordered. The automatic reference feature will reorder the references with any changes in the text. When citing a reference more than once, place a marker with the name of the first author in the appropriate place. DO NOT insert another endnote reference as this will lead to multiple referencing and confusion later. If you append supporting information or other material at the end of the document you will need to place a section break just after the acknowledgements and set the placement of references to “after section.” Note that if you have inserted section breaks earlier in the document (e.g., to place two-column wide figures as described in the next section) you will have to scroll through each section and move the footnotes to the next section until they all appear in one place following the acknowledgements.
5. Once your draft is complete, format the manuscript so that it resembles the layout of the journal to which it will be submitted. Embed the figures and their captions in the text, using a two column format. If you need to use a figure with a width spanning both columns, you will need to insert section breaks before and after the figure and format the figure section as single column width. Be sure to paginate the document. Spell check the document.
6. Place an asterisk next to the corresponding authors name (generally the names of the faculty advisors). In a footer at the bottom left of the cover page (this will usually be your abstract page unless it is a communication to some journals) insert an asterisk followed by “Author to whom correspondence should be addressed” (do not actually include the quotes). On the next line include the statement “To be submitted to *Journal Name*”. At the right side of the same line insert the date, using the automatic update option. Using the Word Art option insert “DRAFT – DO NOT CIRCULATE” at the top of the draft:
7. If you are submitted single crystal x-ray structural data with your manuscript, you may need to supply .CIF files for the review process. Check the guidelines for authors for the journal to which you are submitting the manuscipt for instructions.
8. Make the required number of copies for the journal , three for the corresponding author (your advisor), and one more for each author. Place one set of original figures in a transparent plastic folder (make sure they are numbered, include the title and authors as instructed above), complete the copyright form (using an electronic template, if possible) for signature by the corresponding author (your advisor). Prepare a list of potential reviewers and identify the best associate editor of the journal for processing the manuscript. Make two electronic copies of the manuscript text, tables, CIF files and original artwork, in CANVAS format, on ZIP disks, one for yourself and one for the corresponding author. You do not submit the electronic files to the journal with the first submission but you will eventually need to do this once the manuscript is accepted.
9. Give the materials for the journal or text to the corresponding author (s), who will prepare the cover letter for submission of the manuscript. Now you wait for the reviews.