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Preparing a high-quality manuscript for publication

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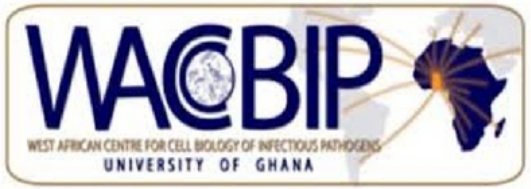


Key take-home messages

- Manuscripts are judged primarily based on originality of the data and the quality of the presentation
- The most important part of the manuscript is the results (data)
- All journals want to be the first to publish major new research findings
  - They cherish the attention that it will generate
  - The citations that will accrue over many years
- Publication decisions, are largely fair and honest (!!!)
- But: human beings, not machines, make the decisions
  - It's the authors' duty to make the manuscript attractive to the editors and reviewers
- The best way to master the art of manuscript writing is through *writing manuscripts*
- Everyone gets manuscript rejections, even Nobel prize winners!
  - Don't take rejections personally, learn from the comments

Selecting a journal

- What is the audience that I am trying to reach?
- Which Journals have strength in my area of interest? How do I determine this?
  - ✓ Talk to senior colleagues
  - ✓ Check journal citation reports
  - ✓ Search the literature
- How do I determine the Scope of the potential journals
  - ✓ check the journals' websites

Beware of predatory journals

- Journals that will publish almost anything, for fees that can range into the hundreds of dollars per paper
- Manuscripts often accepted within a few days, usually less than two weeks
- Trick authors by flattering emails inviting them to submit a paper
- Use names that sound like names of popular journals
- Many academics are complicit, which explains why these journals have proliferated - an ugly symbiosis

Publish complete story, avoid ‘slicing’ data

Salami Slicing

The “slicing” of research that would form one meaningful paper into several different papers is called "salami publication" or "salami slicing".

Slicing not only skews the "scientific database" but it creates repetition that wastes readers' time as well as the time of editors and reviewers, who must handle each paper separately. Further, it unfairly inflates the author's citation record.

Abraham P (2000). Duplicate and salami publications. Journal of Postgraduate Medicine, 46: 67

Preparing the manuscript

- A manuscript must tell a story, in a logical sequence
- Prepare all figures and tables that you need to tell the story (and legends).
  - Carefully consider which data to present as figures and which as tables
  - Best/most compelling data should be presented as figures
  - Table are better for multi-faceted data types
  - Primary/raw data and optimization or control data should be considered for supplementary
- Arrange them in the order that makes the story follow a logical sequence
  - This is not necessarily the order in which experiments were performed
- Read the Guidelines for Authors for the chosen Journal
- Write an outline of the manuscript
- Proceed to draft the text of the manuscript

Major sections of a manuscript

- **Main text**
  - ✓ Title
  - ✓ Abstract
  - ✓ Introduction
  - ✓ Materials and methods
  - ✓ Results
  - ✓ Discussion
- **Other sections**
  - ✓ References
  - ✓ Figure legends
  - ✓ Tables
  - ✓ Figures
  - ✓ Supplementary tables and figures

- Write in past tense and in passive voice, as much as possible
- Communicate clearly and simply: avoid long-winded sentences
- Check all formatting details e.g italizing, punctuation, etc
- Overall consistency and appearance is important

Title and abstract

- **Title** should be interesting (catchy) and informative
  - Not too long – should be a phrase not sentence
- **Abstract** should be a miniature of the manuscript:
  - introduction, overall aim, approach/methods, key results and significance of results
  - May be structured or unstructured, depending on journal instructions
  - Adhere to the word limit – usually 200-350 words
- Title and Abstract may be drafted first, but should be revisited after completion of manuscript

Introduction

- State the problem that was investigated or addressed
- What relevant material was published before?
- What were you trying to accomplish in these studies?
- One sentence summary of your key findings.

Materials and methods

- Briefly describe study design – places and people or animals
  - Ethical approvals and consent, if applicable
- Details of methods, in sub-sections, logical sequence
  - enough detail so that another researcher can reproduce your results by using your methods
  - But do not give detailed explanations of already published techniques. Give the reference with any modifications explained
  - Provide specific details of sources of all key materials/cell lines/animal breeds/reagents used
  - Use figures or tables if they improve clarity of methods
- Data analysis strategy and statistical methods/software used
  - Statistics MUST be done properly, consult professional if necessary

Results

- Results should be presented in sub-sections, which describe the major pieces of evidence generated from the investigations
- Sub-sections should correspond to specific figures and tables
  - Tables and figures MUST be cited sequentially as arranged
  - Avoid using ‘results are presented in figure x’, instead just describe the results and reference the tables and figures in parenthesis
- Each sub-section begins with explaining the why and how of the experiment briefly, followed by description of the resulting observations
- There should be a smooth transition from one result leading to the next experiment
- Do not use the Results section for Discussion, unless the Journal prescribes

Discussion

- Your discussion should be succinct
- Do not restate the results in detail, but briefly summarize the major findings
- Put the findings in the context of previous studies
  - Are they consistent? If not, what could a possible explanation be?
- How does your study advance the field?
- What are the limitations to your findings?
- Do not over-interpret your data!
- What would be the next steps?

Rigorous internal peer review

- Start with lab mates and colleagues for high-level review
- Then to senior colleagues and advisors for a more thorough review
- Be thick-skinned. Your advisors have the job of helping you write the best scientific paper.
- Ultimately this is your manuscript, so you will look good in the end
- Your manuscript should go through multiple drafts until all co-authors are satisfied with the final product
- All co-authors must approve the final version prior to submission

Determining authorship

- Authorship must be earned, courtesy authorships should be avoided
- According to ICMJE guidelines, authorship should be based on:
  - Substantial contribution to conception and design, or acquisition of data, or analysis and interpretation of data;
  - Drafting the article or revising it critically for important content; and
  - Final approval of the version to be published; and
  - Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
  - ✓ Authors should meet conditions 1, 2, 3 and 4

Determining authorship

- Authorship is not justified based on:
  - Merely providing funding, space, or use of equipment
  - Providing routine technical work
  - Providing fee-for-service core work
  - Editing the manuscript
  - ✓ People providing this type of assistance can be listed in the acknowledgement with permission

Being first author

- First Authorship earned by doing all of the following:
  - Doing the experiments and collecting data;
  - Interpreting the results; and
  - Writing the first draft

Senior/Last or corresponding author

- Senior Authorship earned by doing all of the following:
  - Supervises the work
  - plays a major role in deciding (along with the first author) who should be an author and the order. He/she is also responsible for communicating this to all authors and determining who receives acknowledgements;
  - must review and take responsibility for all data in the manuscript;
  - must describe the role of each author;
  - oversees manuscript submission;
  - oversees response to peer review critiques;
  - and must properly store data

The don’ts

- It is professional malpractice to do any of the following:
  - Fabricate data
  - Falsify data
  - Make false statements about unpublished data or data not shown
  - Dual submit
  - Plagiarize

Plagiarism (including self-plagiarism)

- You will be caught – avoid the embarrassment
  - Most or all manuscripts go through plagiarism software (iThenicate)
  - Software gives Similarity index
  - Shows every section of your manuscript which is plagiarized (with a word count)
  - Shows the articles from which you have plagiarized

✓ Advisable to run manuscripts through plagiarism software before submitting

Responding to reviewer comments

- If your manuscript is reviewed and revision is requested:
  - Express gratitude for being given the opportunity to revise (it could have been rejected!)
  - Be thoughtful in your response
  - Be polite - educate gently
  - Do not fight the reviewer or editor - they are mostly actually trying to improve your paper
  - And they control the fate of your manuscript

Handling rejection

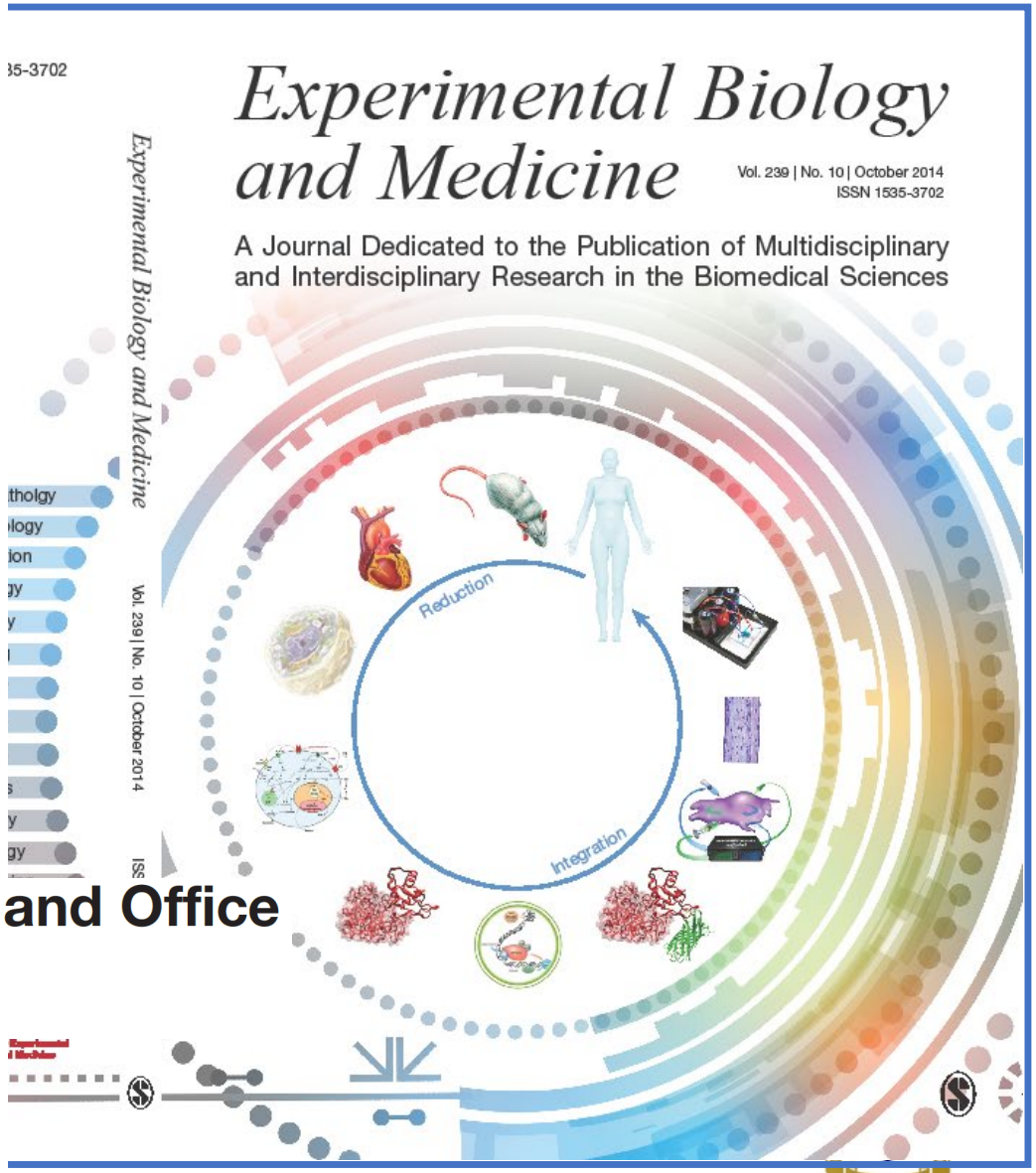
- When your manuscript is rejected, do not despair:
  - It happens to everyone
  - Learn from the critiques
  - Do more experiments if necessary
  - Modify figures or text as needed
  - Reformat and resubmit to another journal

Finally accepted!

- When your manuscript is accepted:
  - Let all authors know ASAP
  - Celebrate!
  - Get back to work, don't rest on your laurels

Consider EBM as an option

- Founded in 1903
- Flagship journal for the Society for Experimental Biology and Medicine (SEBM)
- Impact factor – 3.139



EBM and SEBM Inaugurates its African Global Editor and Office

Experimental Biology and Medicine 2019; 244: 1607. DOI: 10.1177/1535370219891014

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