Preparing First Quality Scientific Manuscripts for Potential Publication in World Class, Peer Reviewed Journals

Zhejiang University Manuscript Writing Workshop June 12, 2015 Prof Dr. Donald Huisingh Editor-in-Chief Journal of Cleaner Production donaldhuisingh@comcast.net SKYPE name: huisinghdon

When did people begin to communicate their ideas and stories? How did they ‘publish’ them? Why did they ‘publish’ them?

Approximately 30,000 years ago some of our ancestors painted on walls of caves to inform others about their lives and experiences


Today, do you also have something to share with others? In what ways do/can you communicate?

Why do we publish?

• Scientists publish to share their findings, with the scientific community, to advance knowledge and understanding
  • To present new, original results or methods
  • To develop an integrated and systematized review of the contents of an area or field of knowledge.

The publish or perish driver

Funding Bodies
Grant Writing
Scientists / Clinicians
Journal Publication
What do publishers want?

**WANTED**
- Originality
- Significant advances in field
- Appropriate methods and conclusions
- Readability
- Studies that meet ethical standards

**NOT WANTED**
- Duplications
- Reports of no scientific interest
- Work that is out of date
- Inappropriate methods or conclusions
- Studies with insufficient data

Preparatory Questions

What steps do I need to take before I begin to write my paper?
How should I plan and develop my article?
How can I ensure I am using proper scientific manuscript language?

Am I ready to Publish Something?

You should consider publishing if you have information that advances understanding in a specific research field.

This could be in the form of:
- Presenting new, original results or methods
- Reviewing or summarizing the knowledge of a particular subject or field

What is a good manuscript?

- It has a clear, useful, and exciting message
- It is presented and constructed in a logical manner
- It is designed so that reviewers and editors can grasp the significance easily

Who is my audience?

- Do I wish to reach specialists, multidisciplinary researchers, or a general audience?
- I will need to adjust my information and writing style according to my audience.
Who is my audience?

• Journals, even in similar subjects, reach different readers with different backgrounds and interests.
• Is the readership worldwide or local?

Who is my audience?

• Each journal has a style: read some of its articles to get an idea of its style, approaches and content.

Who is my audience?

• Each journal has its own style;
• Read some of its articles to get an idea of its style, approaches and content.

To Which Journal Should I Submit my Paper?

• Consider:
  – What are the Journal’s objectives & scope?
  – What types of materials does it publish?
  – What type(s) of readership does it have?
  – What are its current hot topics?
  – Review recent abstracts and articles
  – Ask colleagues for advice

What type of manuscript do I wish to publish?

• Conference Papers
• Full articles/Original articles
• Short communications
• Review papers
• Which of these types of papers, should I write at this time?
• You should ask your advisor and colleagues for advice on manuscript type for you at this time.

Conference Papers

• Excellent for disseminating early or in-progress research findings
• Typically 3000 – 4000 words, 3 figures, 15-20 references
• Draft and submit the paper to conference organisers
• It is a good way to start a scientific research career
Short Communications

- Early communications of significant, original advances.
- Short articles (Approximately 3000 - 3500 words, 5 - 8 references, 2 - 4 figures.)

Full articles/Original article

- Standard for disseminating completed research findings
- Typically 7500 to 8500 words, 4 - 5 figures, 2 or 3 tables, 25 - 35 references
- Draft and submit the paper to the appropriate journal
- It is a good way to build your scientific career

Review papers

- Critical synthesis of a specific research topic
- Typically 9000 – 13000 words, 5 - 10 figures and tables, 80 – 300 references
- Preparing and publishing review papers is an excellent way to consolidate knowledge and to map out what is needed to fill the gaps.

Sample full article title:

Summary – What steps do I need to take before I write my paper?

- Determine if you are ready to publish
- Decide on the type of manuscript
- Choose the target journal
- Check the Guide for Authors

Consulting the Guide for Authors will save your time and the editor’s

All editors hate wasting time on poorly prepared manuscripts

It is a sign of disrespect to the editor and to you as an author

In Class Exercise

What are key characteristics of the best manuscript you have ever read?
• Characteristics of ‘good’ articles:

• Lessons you learned

Stimulating Creativity and overcoming fear of failure!!!

“Imagination is more important than knowledge!”
Albert Einstein

Making New Connections

“Discovery consists of looking at the same thing as everyone else and thinking something different.”

Albert Szent-Gyorgyi
Winner, Nobel Prize in Medicine (1937)

Outline

• Writing a quality manuscript
  • Preparations
  • Article construction
  • Language
  • Technical details
  • Revisions and response to reviewers
  • Ethical issues
  • Conclusions: getting accepted

Article Structure

• Title
• Authors
• Abstract
• Keywords
  Need to be accurate and informative for effective indexing and searching

• Main text
  – Introduction
  – Methods
  – Results
  – Discussion (Conclusion)
  Each has a distinct function

• Acknowledgements
• References
• Supplementary material

Writing a quality manuscript

• Article construction

January 2012
Title

A good title should contain the fewest possible words that adequately describe the contents of the paper

**DO**
- Convey the main findings of the research
- Be specific
- Be concise
- Be complete
- Attract readers

**DON'T**
- Use unnecessary jargon
- Use uncommon abbreviations
- Use ambiguous terms
- Use unnecessary details
- Focus on part of the content only

Title

Slower processing is correlated with higher levels of depressed mood, fatigue, lower verbal fluency, fewer words and digits recalled and poorer recall of visual-spatial information in MS patients

Relationships between information processing, depression, fatigue and cognition in multiple sclerosis

Authorship

General principles for who is listed first

- **First Author**
  - Conducts and/or supervises the data generation and analysis and the presentation and interpretation of the results
  - Puts paper together and submits the paper to the journal

- **Corresponding author**
  - The first author or a senior author from the institution

Avoid

- **Ghost Authorship**
  - Leaving out authors who should be included
- **Gift Authorship**
  - Including authors who did not contribute significantly

Spelling names: Be consistent!

Authors and affiliations

Be consistent with spelling, full versus short names, full versus short addresses, including current, correct e-mail addresses

- **Surname:** Pérez-García / Pérez / Garcia
- **Middle Initial:** Use consistently or not at all
- **First Names:** Dave / David
- **Affiliation:** Faculty of Medicine / Faculty of Medical and Health Sciences
Abstract

The quality of an abstract will strongly influence the editor’s and potential reader’s decision. A good abstract:

- Is precise and honest
- Can stand alone
- Uses no technical jargon or acronyms
- Is brief and specific
- Cites no references

Use the abstract to “sell” your article

A Good Abstract Should State:

- What problem or issue was addressed?
- What was done?
- What theories and methods were used?
- What was found or learned?
- What was recommended?

Keywords

Keywords are important for indexing: they enable your manuscript to be more easily identified and cited.

Check the Guide for Authors for journal requirements for key word limits

- Keywords should be specific
- Avoid uncommon abbreviations and general terms

Highlights

Highlights complete sentences, with a maximum of 85 characters, spaces and punctuation. There should be four to five highlights for each paper.

- They should summarize the key findings or advances results of the work done by the author(s) of the manuscript.

Introduction

Provide the necessary background information to put your work in context. It should be clear from the introduction:

- Why the current work was performed
  - objectives
  - significance
- What has been done before
- What was done (in brief terms)
- What was achieved (in brief terms)
Introduction

DON'T
• Write an extensive review of the field
• Disproportionately cite your own work, work of colleagues or work that only supports your findings while ignoring contradictory studies or work by competitors
• Describe methods, results or conclusions other than to outline what was done and found
• Overuse terms like “novel” and “for the first time”

Methods

The Methods section must provide sufficient information so that a knowledgeable reader can reproduce research!

Unless the Guide for Authors states otherwise, use the past tense; the present tense is usually only used in methodology-type papers

Results

The main findings of the research

DO
• Use figures and tables to summarize data
• Show the results of statistical analysis
• Compare “like with like”

DON'T
• Duplicate data among tables, figures and text
• Use graphics to illustrate data that can easily be summarized with text

Graphics

“Readers... often look at the graphics first and many times go no further. Therefore, the author and the reviewer should be particularly sensitive to inclusion of clear and informative graphics.”

– Henry Rapoport, Associate Editor, Journal of Organic Chemistry
Illustrations should only be used to present essential data.

The information in the table can be presented in one sentence:

"The surface soils were dark grayish brown, grading to light olive brown (woodland), light olive brown (wetland), and pale olive (grassland) at 100 cm."

Summarize results in the text where possible.

**Table:**

<table>
<thead>
<tr>
<th>ECOLOGICAL GROUP</th>
<th>Station</th>
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<th>II</th>
<th>III</th>
<th>IV</th>
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<td></td>
<td></td>
<td>1000R</td>
<td>86.7</td>
<td>8.5</td>
<td>4.5</td>
<td>0.2</td>
</tr>
</tbody>
</table>

- **Legend is poorly defined**
- **Graph contains too much data**
- No trend lines

- **Legend is well defined but there is still too much data and no trendlines**

- **Legend is clear**
- **Data are organized better**
- Trend lines are present

- Indicate the statistical tests used with all relevant parameters:
  - Mean ± SD
- Give numerator and denominators with percentages:
  - 40% (100/250)
- Use means and standard deviations to report normally distributed data.
**Statistics**

- Use medians and interpercentile ranges to report skewed data
- Report $P$ values
  \[ p=0.0035 \text{ rather than } p<0.05 \]
- The word “significant” should only be used to describe “statistically significant differences”

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**Discussion**

Provide answers to the research questions:

- How do the results relate to the study’s objectives, hypotheses or research questions?
- How do the findings relate to previous work done by others or by you and your team?
- What are alternative possible interpretations of your findings? Which do you prefer? Why?
- What are the limitations of your study?

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**Discussion**

Avoid

- Making “grand statements” that are not supported by the data
  Example: “This novel treatment will massively reduce the prevalence of malaria in the third world”
- Introducing new authors, terms or results.

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**Conclusions**

Put your study into CONTEXT

Describe how it represents an advance in the field

Suggest future experiments

Avoid repetition of content from other sections

Avoid being overly speculative

Don’t over-emphasize the impact of your study

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**Acknowledgements**

Acknowledge anyone who helped you with the study, including:

- Anyone who helped with the writing or English, or offered critical comments about the content
- Researchers who supplied materials or reagents
- Anyone who provided technical help

State why people have been acknowledged

Acknowledge funding sources and grant numbers

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**References**

Check the Guide for Authors for the correct format

- Spelling of author names
- Punctuation
- Number of authors to include before using “et al.”
- Reference style

Check

Avoid
References

Check the Guide for Authors for the correct format

Check
• Spelling of author names
• Punctuation
• Number of authors to include before using "et al."
• Reference style

Avoid
• Personal communications, unpublished observations and submitted manuscripts not yet accepted
• Excessive citing of articles published only in the local language
• Excessive self-citation and journal self-citation

Supplementary material

Information related to and supportive of the main text, but of secondary importance

Includes:
• Microarray data
• Method validation
• Additional controls
• Video data

Will be available online when the manuscript is published

Summary points about writing a quality manuscript

• Language

Do publishers correct language?

• No. It is the author’s responsibility to make sure his/her paper is in the best possible form when submitted for publication

• However:
  – Publishers often provide resources for authors who are less familiar with the conventions of international journals. Please check your publishers’ author website for more information.
  – Some publishers may perform technical screening prior to peer review.
  – Visit http://webshop.elsevier.com for translation and language editing services.

“Journal editors, overloaded with quality manuscripts, may make decisions on manuscripts based on formal criteria, like grammar or spelling. Don’t get rejected for avoidable mistakes; make sure your manuscript looks perfect”

Arnout Jacobs, Elsevier Publishing

Thus, both the science and the language need to be of top quality!
**Manuscript Language – Overview**

Write with clarity, objectivity, accuracy, and brevity

- Key to successful manuscript writing is to be alert to common errors:
  - Sentence construction
  - Incorrect tenses
  - Inaccurate grammar
  - Mixing languages

Check the Guide for Authors of the target journal for any language specifications

**Manuscript Language – Tenses**

- Present tense for known facts and hypotheses:
  "The average life of a honey bee is 6 weeks"

- Past tense for experiments you have conducted:
  "All the honey bees were maintained in an environment with a consistent temperature of 23 degrees centigrade…"

- Past tense when you describe the results of an experiment:
  "The average life span of bees in our contained environment was 8 weeks…"

**Manuscript Language – Grammar**

- Use active voice to shorten sentences
  - Passive voice: "It has been found that there had been..."
  - Active voice: "The authors found that..."

- Avoid abbreviations: "it’s", "weren’t", "hasn’t"
  - Never use them in scientific writing
  - Only use abbreviations for units of measure or established scientific abbreviations, e.g. DNA

**Manuscript Language – Grammar**

- Minimize use of adverbs: "However", "In addition", "Moreover"

- Eliminate redundant phrases

- Double-check your usage of unfamiliar words or phrases

**Language**

Use English throughout the manuscript, including figures.

**Summary – How can I ensure I am using proper manuscript language?**

- Proper manuscript language is important so that editors, reviewers and future readers can easily understand your message

- Refer to the journal’s Guide for Authors for specifications

- Check that your paper has short sentences, correct tenses, correct grammar, and is all in English

- Have a Native English Science Editor review and correct the English of your manuscript
The three “C”s

Good writing possesses the following three “C”s:
- Clarity
- Conciseness
- Correctness (accuracy)

The key is to be as brief and specific as possible without omitting essential details

Know the enemy

Good writing avoids the following traps:
- Repetition
- Redundancy
- Ambiguity
- Exaggeration

Repetition and redundancy

Vary the sentences used when writing the abstract or describing findings at the end of the introduction

Don’t copy verbatim from other sections!

Avoid words with the same meaning

In addition, sections were also stained with ...

After centrifugation, pellets were then ...

Exaggeration

“...There was a massive decrease in the number of tumors following p.o. administration of green tea”

Beware of exaggeration but do indicate significance

Writing a quality manuscript

- Technical details

Length

“...7,500 to 8,500 is the ideal length for a submitted manuscript, including ESSENTIAL data only”

Consult the Guide for Authors for word and graphic limits
**Layout**

- Keep line spacing, font and font size consistent throughout – double-spaced 12-point Times New Roman is preferred
- Use consistent heading styles throughout and no more than three levels of heading
- Number the pages
- Number the lines of each page, if the journal requires – check the Guide for Authors
- Order and title sections as instructed in the Guide for Authors – Figure and Table sections are normally together following the References

**Final checks**

*Revision before submission can prevent early rejection*

- Check that everything meets the requirements requested in the Guide for Authors!
- Check that the scope of the paper is appropriate for the selected journal.
- Ask colleagues to critically and constructively review your document.
- If necessary work with a ‘Native English Science Editor.’

**Language Editing Services**

Recommended companies include:

- Edanz Editing
- Liwen Bianji
- International Science Editing
- Asia Science Editing
- SPI Publisher Services
- Diacritech Language Editing Service

*Use of an English-language editing service listed here is not mandatory, and will not guarantee acceptance for publication in Elsevier journals but it will help to improve your chances that your manuscript will be accepted!*

**Cover letter**

- This is your chance to speak to the editor directly
- Keep it brief, but convey the particular importance of your manuscript to the journal
- Suggest potential reviewers

**Cover letter**

Include:

- Editor name – Address to journal editor, not generic
- First sentence – provide title, author list and journal name
- Briefly describe:
  - your research area and track record
  - the main findings of your research
  - the significance of your research
- Confirm the originality of the submission
- Confirm that there are no competing financial interests

**Making Revisions and Responding to Reviewers and Editors**
Post-referee revision

Carefully study the reviewer’s and editor’s comments and prepare a detailed letter of response!!

- Respond to all points, even if you disagree with a reviewer, provide a polite, scientifically solid rebuttal rather than ignore their comment.
- Provide page and line numbers when referring to revisions made in the manuscript
- Perform additional calculations, computations, or experiments if required; these usually serve to make the final paper stronger

Post-referee revision

The reviewer is clearly ignorant of the work of Bonifaci et al. (2008) showing that the electric field strength in the ionization zone of the burned corona is less than the space charge free field before the corona onset....

Thank you for your comment. However, we feel that the assumption in our model is supported by recent work by Bonifaci et al. (2008), who showed that the electric field strength in the ionization zone of the burned corona is less than the space charge free field before the corona onset.

What gets you accepted?

- Attention to details
- Check and double check your work
- Consider the reviews
- English must be as good as possible
- Presentation is important
- Take your time with revision
- Acknowledge those who have helped you
- New, original and previously unpublished
- Critically evaluate your own manuscript
- Ethical rules must be obeyed

Accepting rejection

Don’t take it personally!

- Try to understand why the paper has been rejected
- Evaluate honestly – will your paper meet the journal’s requirements with the addition of more data or is another journal more appropriate?
- Don’t resubmit elsewhere without significant revisions addressing the reasons for rejection and checking the Guide for Authors

Ethical Issues
Unethical behavior “can earn rejection and even a ban from publishing in the journal”
Terry M. Phillips, Editor, Journal of Chromatography B

Unethical behavior includes:
• Multiple submissions of the same article
• Plagiarism
• Data fabrication and falsification
• Improper use of human subjects and animals in research
• Improper author contribution

Multiple submissions save your time but waste editor's time and it is unethical!
The editorial process of your manuscripts will be completely stopped if the duplicated submissions are discovered!!

“...It is considered to be unethical...We have thrown out a paper when an author was caught doing this. I believe that the other journal editors do the same thing”
James C. Hower, Editor, International Journal of Coal Geology

Multiple submissions
Competing journals constantly exchange information on suspicious papers
You should not send your manuscripts to a second journal UNTIL you receive the ‘reject’ decision from the first journal

DON’T DO IT!!

Redundant publication
An author should not submit for consideration in another journal a previously published paper

• Published studies should not be republished!
• Previous publication of an abstract and short conference paper in the proceedings of conferences does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission

Plagiarism
“Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others’ research proposals and manuscripts”
Federal Office of Science and Technology Policy, 1999

Plagiarism is a serious offence that could lead to paper rejection, academic charges and termination of employment. It will seriously affect your scientific reputation!

DON’T DO IT!

Unacceptable paraphrasing, even with correct citation, is also plagiarism!
**Data fabrication and falsification**

- Fabrication is making up data or results, and recording or reporting them.
- Falsification is manipulating research materials, equipment, processes; or changing / omitting data or results such that the research is not accurately represented in the research record.

"The most dangerous of all falsehoods is a slightly distorted truth"

G.C. Lichtenberg (1742–1799)

**Improper author contribution**

Authorship credit should be based on:
1. Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data.
2. Drafting the article or revising it critically for important intellectual content.
3. Final approval of the version to be published.

Authors should meet conditions 1, 2, and 3. Those who have participated in certain substantive aspects of the research project should be acknowledged or listed as contributors. Check the Guide for Authors.

**Peer Reviewer's Roles**

Peer review is a very important part of scholarly publication, it is the cornerstone of the whole system. It has two key functions:
- Acts as a filter, to ensure only good research findings are published.
- Improves the quality of the papers submitted for publication.

**Reviewer's evaluation**

**Originality**
- Is the article sufficiently novel and interesting to warrant publication?
- Does it add to the canon of knowledge?
- Does the article adhere to the journal's standards?
- Is the research question an important one?
- Is it in the top 25% of papers in this field?

**Structure**
- Is the article clearly laid out?
- Are all the key elements present: abstract, introduction, methodology, results, conclusion?
- Consider each element on appropriateness and conciseness.
Language
Is the article poorly written with a number of misspelled words and grammatical errors?
Advise the editor of the poor quality, and allow them to take appropriate action.
Correcting English in a paper is not the role of the reviewer.

Previous Research

- Does the article build upon previous research and does it reference that work appropriately?
- Are there important works that have been omitted?
- Are the references accurate?

Ethical issues

- **Plagiarism & Fraud:**
  If any suspicion, let the editor know
- **Other ethical concerns:**
  Has confidentiality been maintained? If there has been violation of accepted norms of ethical treatment of human subjects these should also be identified

Reviewer’s Report to the Editor

- Scientific journals use standard report structures
- Reviewer’s options for recommendations about publication of the article you reviewed include:
  a) Reject due to poor quality, or out of scope
  b) Accept after revision
  c) Minor revision or major revision needed
  d) Reject with encouragement to re-submit a new article after the following major changes have been made

Enjoy Your Journey

- There are many challenges and barriers you will encounter in seeking to prepare and to publish your document.
- However, that journey will be easier and more satisfying if you use the contents of this presentation as a guide.

Thank you

For further information please visit: www.elsevier.com/authors
That is why you publish mmmm........