How to Write Great Papers

From title to references

From submission to acceptance

Presented by: Monique Lamine
Director Contract Publishing
Innovation & Publishing Development
STMjournals
Workshop Outline

- Trends in publishing
- How to get published
  - Before you start
  - Select your audience
  - Tips for language
  - The article structure
- The review and editorial process
- What not to do... (author ethics)
Today’s research environment

Every year, 1.2 MILLION researchers begin their careers.

...where the young researchers need guidance.
Peer-Reviewed Journal Growth 1665-2001

- 2009: 1.4 million articles in 23,000 journals by 2,000 publishers

Source:
M A Mabe The number and growth of journals
Serials 16(2).191-7, 2003
Over one million English language research articles published globally each year.

About 1000 English language research articles published with Elsevier today.
Elsevier Journal publishing volume

- 1,000 new editors per year
- 20 new journals per year

- Organise editorial boards
- Launch new specialist journals

- 11 million articles now available

- 600,000+ article submissions per year

- 11 million researchers
- 5,000+ institutions
- 180+ countries
- 400 million+ downloads per year
- 3 million print pages per year

- 280,000 new articles produced per year
- 190 years of back issues scanned, processed and data-tagged

- 200,000 reviewers
- 1 million reviewer reports per year

- 7,000 editors
- 70,000 editorial board members
- 6.5 million author/publisher communications per year

- 40%-90% of articles rejected
Trends in publishing; print is so 1990

- Rapid conversion from “print” to “electronic”
  - 1997: print only
  - 2009: 55% e-only (mostly e-collections)
    - 25% print only
    - 20% print-plus-electronic
- Changing role of “journals” due to e-access
- Increased usage of articles
  - At lower cost per article
- Electronic submission
  - Increased manuscript inflow
- Experimentation with new publishing models
  - E.g. “author pays” models, “delayed open access”, etc.
Open Access

- Author processing fee per article published – sole mechanism to support journal
- Some journals use subsidies, grants and waivers
- Often referred to as “gold” open access

**EXAMPLES**
- Elsevier has 14 OA journals

Author processing fee per article published – sole mechanism to support journal

- Some journals use subsidies, grants and waivers
- Often referred to as “gold” open access

**EXAMPLES**
- Elsevier has 14 OA journals

Open Access Journals

- Option to make an article within a subscription journal open access
- Supported by several funding organisations
- Often referred to as the hybrid model

**EXAMPLES**
- Elsevier has 1,200 journals that offer this service
- Agreements with RCUK, Wellcome Trust, FWF, Telethon

Manuscript Posting

- Posted manuscripts, or pre-prints to websites and repositories
- Supported by many universities and research organisations
- Often referred to as “green” open access
- Elsevier has a very liberal posting policy that supports researcher needs
- Agreements developed with institutions to facil

Free Access to Archive

- Subscription journals making articles freely available online after time delay
- Time to free access varies due to differences in subject fields

**EXAMPLES**
- Over 90 Elsevier journals now offer this solution in fields such as medicine, life sciences and mathematics
However, editors, reviewers, and the research community don’t consider these reasons when assessing your work.
Always keep in mind that...

...your published papers, are a permanent record of your research, are your passport to your community...
Why publish?

**Publishing** is one of the necessary steps **embedded in the** scientific research process. It is also necessary for graduation and career progression.

**What to publish:**
- New and original results or methods
- Reviews or summaries of a particular subject
- Manuscripts that advance the knowledge and understanding in a certain scientific field

**What NOT to publish:**
- Reports of no scientific interest
- Out of date work
- Duplications of previously published work
- Incorrect/unacceptable conclusions

You need a STRONG manuscript to present your contributions to the scientific community
What is a strong manuscript?

- Has a **novel, clear, useful, and exciting** message

- Presented and constructed in a **logical** manner

- Reviewers and editors can grasp the scientific significance **easily**

---

Editors and reviewers are all busy scientists – make things easy to save their time
How To Get Your Article Published

Before you start
Too many researchers have abandoned all the value of libraries when they stopped going there physically!

There is more than

Learn what online resources are available at your institute, and learn to search in a clever way.

*Haglund & Olson, 2008:*

“...researchers have difficulties in identifying correct search terms. Searches are often unsuccessful.”
Use the advanced search options

- Within Google and Google Scholar use the advanced searches and check out the Search Tips.

- In ScienceDirect, Scopus, WoS/WoK and other databases use proximity operators:
  - w/n  →  Within - (non order specific)
  - pre/n →  Precedes - (order specific)

E.g. wind w/3 energy
Practical advice

- **Find out what’s Hot**
  - [http://info.scopus.com/topcited/](http://info.scopus.com/topcited/)

- **Find the trends of the subject area**
  - Search tips (including alerts)
  - Journals, authors, publications per year (Scopus)

- **Evaluate which journal is right for your article**
  - Impact Factor
  - Subject Specific Impact Factor ([http://tinyurl.com/scopusimpact](http://tinyurl.com/scopusimpact))
  - Journal Analyzer
  - SNIP (using Scopus)
  - $h$-Index

- **Find out more about the journals**
  - Who are the editors?
  - Guide for authors
Find out what’s hot (downloads)

Top 25 Hottest Articles
Agricultural and Biological Sciences
April to June 2010

1. Biological effects of essential oils - A review * Review article
   Food and Chemical Toxicology, Volume 46, Issue 2, February 2008, Pages 446-475
   Bakkal, F.; Averbeck, S.; Averbeck, D.; Idaomar, M.
   Cited by SciVerse Scopus (153)

2. Hemicelluloses for fuel ethanol: A review * Review article
   Bioresource Technology, Volume 101, Issue 13, July 2010, Pages 4775-4800
   Giro, F.M.; Fonseca, C.; Carvalheiro, F.; Duarte, L.C.; Narque, S.; Bogel-Lukasik, R.
   Cited by SciVerse Scopus (2)

3. Antimicrobial herb and spice compounds in food * Review article
   Food Control, Volume 21, Issue 9, September 2010, Pages 1199-1213
   Takarimi, M.M.; Ibrahim, S.A.; Olver, D.O.

4. Hydrolysis of lignocellulosic materials for ethanol production: a review * Article
   Bioresource Technology, Volume 93, Issue 1, May 2002, Pages 1-11
   Sun, Y.; Cheng, J.
   Cited by SciVerse Scopus (590)

5. WRKY transcription factors * Review article
   Rushton, P.J.; Somssich, I.E.; Ringer, P.; Shen, Q.J.

6. Essential oils: their antibacterial properties and potential applications in foods—a review * Review article
   Burt, S.
   Cited by SciVerse Scopus (587)

7. A framework for community interactions under climate change * Article
   Trends in Ecology & Evolution, Volume 25, Issue 6, June 2010, Pages 325-331
   Gilman, S.E.; Urban, M.C.; Tews, J.; Gilchrist, G.W.; Holt, R.D.
   Cited by SciVerse Scopus (2)

8. [Other articles listed...]

Click here to participate in our Top 25 survey

select your interest

Agricultural and Biological Sciences
[all journals]

browse top 25 archive
Current: April to June 2010

show my alerts

sign up now! for the e-mail alerts

Tell other people about this service
Find out what is being cited
Find out who is being cited – in more depth
Questions to answer before you write

Think about why you want to publish your work.

- Is it new and interesting?
- Is it a current hot topic?
- Have you provided solutions to some difficult problems?
- Are you ready to publish at this point?

If all answers are yes, then start preparations for your manuscript.
Decide the most appropriate type of manuscript

- Conference Papers
- Full articles/Original articles
- Short communications/letters
- Review papers/perspectives

- Self-evaluate your work: Is it sufficient for a full article? Or are your results so thrilling that they need to be shown as soon as possible?

- Ask your supervisor and colleagues for advice on manuscript type. Sometimes outsiders see things more clearly than you.
Conference Paper

- Excellent for disseminating early or in-progress research findings
- Typically 5-10 pages, 3 figures, 15 references
- Draft and submit the paper to conference organisers
- Good way to start a scientific research career

Sample Conference Paper titles:

- “Global Warming Prevention Technologies in Japan” at 6th Greenhouse Gas Control Technologies International Conference
- “Power consumption in slurry systems” at 10th European Conference on Mixing
Full article / Original article

- Standard for disseminating completed research findings
- Typically 8-10 pages, 5 figures, 25 references
- Draft and submit the paper to appropriate journal
- Good way to build a scientific research career

Sample full article titles:
- “Hydrodynamic study of a liquid/solid fluidized bed under transverse electromagnetic field”
- “Retinoic acid regulation of the Mesp–Ripply feedback loop during vertebrate segmental patterning”
- “Establishing a reference range for bone turnover markers in young, healthy women”
**Short Communications Article**

- Quick and early communications of significant, original advances.
- Much shorter than full articles.
Review paper / perspective

- Critical synthesis of a specific research topic
- Typically 10+ pages, 5+ figures, 80 references
- Typically solicited by journal editors
- Good way to consolidate a scientific research career

Sample full article titles:

- “Advances in the allogeneic transplantation for thalassemia”
- “Stress and how bacteria cope with death and survival”
- “Quantifying the transmission potential of pandemic influenza”
Citations impact varies by publication type

- Reviews
- Notes
- Articles
Select the best journal for submission

- Look at your references – these will help you narrow your choices.

- Review recent publications in each candidate journal. Find out the hot topics, the accepted types of articles, etc.

- Ask yourself the following questions:
  - Is the journal peer-reviewed?
  - Who is this journal’s audience?
  - What is the journal’s Impact Factor?

- Do not gamble by submitting your manuscript to more than one journal at a time!
  - International ethics standards prohibit multiple/simultaneous submissions, and editors do find out! (Trust us, they do!)
Choose the right journal

Do not just “descend the stairs”

Top journals


Field-specific top journals

Other field-specific journals

National journals
Identify the right audience for your paper

- Identify the sector of
  - readership/community
  - for which the paper is meant

- Identify the interest of your audience

- Is your paper of local or international interest?

- Ask your Professor / advisor
Choose the right journal

- Investigate all candidate journals to find out
  - Aims and scope
  - Accepted types of articles
  - Readership
  - Current hot topics
  - go through the abstracts of recent publications

SummaryPlus
What is the Impact Factor (IF)?

Impact Factor

The number of citations in year x to articles published in years x–1 and x–2, divided by the total number of "source items" published in J in years x–1 and x–2.

- For example, the 2011 impact factor for a journal is calculated as follows:
  - \( A \) = the number of times articles published in 2009 and 2010 were cited in indexed journals during 2011
  - \( B \) = the number of "citable items" (usually articles, reviews, proceedings or notes; not editorials and letters-to-the-Editor) published in 2009 and 2010
  - 2011 impact factor = \( \frac{A}{B} \)
  - e.g. \( 600 \text{ citations} \) = 2.000
    
    150 + 150 articles

- 2011 impact factor = \( \frac{600}{150 + 150} \) = 2.000

For example, the 2011 impact factor for a journal is calculated as follows:

- \( A \) = the number of times articles published in 2009 and 2010 were cited in indexed journals during 2011
- \( B \) = the number of "citable items" (usually articles, reviews, proceedings or notes; not editorials and letters-to-the-Editor) published in 2009 and 2010
- 2011 impact factor = \( \frac{A}{B} \)
- e.g. 600 citations = 2.000

150 + 150 articles
Impact Factor and other bibliometric parameters
Influences on Impact Factors: Subject Area

- Fundamental Life Sciences
- Neuroscience
- Clinical Medicine
- Pharmacology & Toxicology
- Physics
- Chemistry & Chemical Engineering
- Earth Sciences
- Environmental Sciences
- Biological Sciences
- Materials Science & Engineering
- Social Sciences
- Mathematics & Computer Sciences

Mean Impact Factor

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5
Read the **Guide to Authors** - Again and again!

- Stick to the **Guide for Authors** in your manuscript, even in the first draft (text layout, nomenclature, figures & tables, references etc.). In the end it will save you time, and also the editor’s.

- Editors (and reviewers) do not like wasting time on poorly prepared manuscripts. It is a sign of disrespect.

---

**Guide for Authors**

Official journal of the Controlled Release Society, and of the Japan Society of Drug Delivery System

- **SCOPE OF THE JOURNAL**
- **Contact details for submission**
- **BEFORE YOU BEGIN**
- **Ethics in Publishing**
- **Conflict of interest**
- **Submission declaration and verification**
- **Copyright**
- **Retained author rights**
- **Role of the funding source**
- **Funding body agreements and policies**
- **Language and language services**
- **Submission**
- **Additional information**
- **PREPARATION**
- **Use of word processing software**
- **Article structure**
- **Essential title page information**
- **Abstract**
- **Graphical abstract**
- **Keywords**
- **Abbreviations**
- **Acknowledgements**
- **Artwork**
- **Electronic artwork**
- **Tables**
- **References**
- **Video data**
- **Supplementary data**
- **Submission checklist**
- **Additional information**

**AFTER ACCEPTANCE**

- **Use of the Digital Object Identifier**
- **Proofs**
- **Offprints**

**AUTHOR INQUIRIES**
An international editor says...

“The following problems appear much too frequently”

- Submission of papers which are clearly out of scope
- Failure to format the paper according to the Guide for Authors
- Inappropriate (or no) suggested reviewers
- Inadequate response to reviewers
- Inadequate standard of English
- Resubmission of rejected manuscripts without revision

– Paul Haddad, Editor, Journal of Chromatography A
How can I ensure I am using proper manuscript language?
Thought Question

What are some characteristics of the best manuscript writing you have seen?
Why is language important?

Save your editor and reviewers the trouble of guessing what you mean.

Complaint from an editor:

“[This] paper fell well below my threshold. I refuse to spend time trying to understand what the author is trying to say. Besides, I really want to send a message that they can't submit garbage to us and expect us to fix it. My rule of thumb is that if there are more than 6 grammatical errors in the abstract, then I don't waste my time carefully reading the rest.”
Do publishers correct language?

- No. It is the author’s responsibility to make sure his paper is in its 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](http://webshop.elsevier.com) for translation and language editing services.
Scientific Language – Overview

Write with clarity, objectivity, accuracy, and brevity.

- Key to successful scientific writing is to be alert for common errors:
  - Sentence construction
  - Incorrect tenses
  - Inaccurate grammar
  - Not using English

Check the **Guide for Authors** of the target journal for language specifications
Scientific Language – Sentences

- Write direct and short sentences
- One idea or piece of information per sentence is sufficient
- Avoid multiple statements in one sentence

An example of what NOT to do:

“If it is the case, intravenous administration should result in that emulsion has higher intravenous administration retention concentration, but which is not in accordance with the result, and therefore the more rational interpretation should be that SLN with mean diameter of 46nm is greatly different from emulsion with mean diameter of 65 nm in entering tumor, namely, it is probably difficult for emulsion to enter and exit from tumor blood vessel as freely as SLN, which may be caused by the fact that the tumor blood vessel aperture is smaller.”
How do I build up my article properly?
General structure of a Research Article

- Title
- Abstract
- Keywords

Main text (IMRAD)
- Introduction
- Methods
- Results
- And
- Discussions

- Conclusion
- Acknowledgement
- References
- Supplementary data

Make them easy for indexing and searching (informative, attractive, effective)

Journal space is not unlimited, more importantly, your reader’s time is scarce.
Make your article as concise as possible.
The process of writing – constructing the article

- Title & Abstract
- Conclusion
- Introduction
- Methods
- Results
- Discussion
- Figures / Tables (your data)
Authorship

- Policies regarding authorship can vary
- One example: the International Committee of Medical Journal Editors (“Vancouver Group”) declared that an author must:
  
  1. **Substantially contribute** to conception and design, or acquisition of data, or analysis and interpretation of data;
  2. **Draft** the article or **revise** it critically for important intellectual content; and
  3. **Give their approval** of the final full version to be published.
  4. **All three** conditions must be fulfilled to be an author!

All others would qualify as “Acknowledged Individuals”
Authorship - Order & Abuses

- General principles for who is listed first
  - **First Author**
    - Conducts and/or supervises the data generation and analysis and the proper presentation and interpretation of the results
    - Puts paper together and submits the paper to journal
  - **Corresponding author**
    - The first author or a senior author from the institution
      - Particularly when the first author is a PhD student or postdoc, and may move to another institution soon.

- Abuses to be avoided
  - **Ghost Authorship**: leaving out authors who should be included
  - **Gift Authorship**: including authors who did not contribute significantly
Acknowledged Individuals

Recognize those who helped in the research, but do not qualify as authors (you want them to help again, don’t you?)

Include individuals who have assisted you in your study:

- Advisors
- Financial supporters
- Proof-readers
- Typists
- Suppliers who may have given materials
Author names: common problems

- Different Spellings
  - Järvinen / Jaervinen / Jarvinen
  - Lueßen / Lueben / Luessen
  - van Harten / Vanharten / Van

- First/Last Names
  - Asian names often difficult for Europeans or Americans

- What in case of marriage/divorce?

Be consistent!

If you are not, how can others be?
A good title should contain the **fewest** possible words that **adequately** describe the contents of a paper.

**Effective titles**
- Identify the main issue of the paper
- Begin with the subject of the paper
- Are accurate, unambiguous, specific, and complete
- Are as short as possible
- Articles with **short, catchy titles** are often better cited
- Do not contain rarely-used abbreviations
- Attract readers - Remember: readers are the potential authors who will cite your article
## Title: Examples

<table>
<thead>
<tr>
<th>Original Title</th>
<th>Revised</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary observations on the effect of Zn element on anticorrosion of zinc</td>
<td>Effect of Zn on anticorrosion of zinc plating layer</td>
<td>Long title distracts readers. Remove all redundancies such as “observations on”,”the nature of”, etc.</td>
</tr>
<tr>
<td>plating layer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action of antibiotics on bacteria</td>
<td>Inhibition of growth of mycobacterium tuberculosis by streptomycin</td>
<td>Titles should be specific. Think to yourself: “How will I search for this piece of information?” when you design the title.</td>
</tr>
<tr>
<td>Fabrication of carbon/CdS coaxial nanofibers displaying optical and electrical</td>
<td>Electrospinning of carbon/CdS coaxial nanofibers with optical and electrical</td>
<td>“English needs help. The title is nonsense. All materials have properties of all varieties. You could examine my hair for its electrical and optical properties! You MUST be specific. I haven’t read the paper but I suspect there is something special about these properties, otherwise why would you be reporting them?” – <em>the Editor-in-chief</em></td>
</tr>
<tr>
<td>properties via electrospinning carbon</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Keywords

In an electronic world, keywords determine whether your article is found or not!

Avoid making them
- too general ("drug delivery", "mouse", "disease", etc.)
- too narrow (so that nobody will ever search for it)

Effective approach:
Look at the keywords of articles relevant to your manuscript
Play with these keywords, and see whether they return relevant papers, neither too many nor too few
Graphite intercalation compounds (GICs) of composition CₓN(SO₂CF₃)₂ · δF are prepared under ambient conditions in 48% hydrofluoric acid, using K₂MnF₆ as an oxidizing reagent. The stage 2 GIC product structures are determined using powder XRD and modeled by fitting one dimensional electron density profiles. A new digestion method followed by selective fluoride electrode elemental analyses allows the determination of free fluoride within products, and the compositional x and δ parameters are determined for reaction times from 0.25 to 500 h.

What has been done

What are the main findings
Introduction

The place to convince readers that you know why your work is relevant, also for them

Answer a series of questions:

- What is the problem?
- Are there any existing solutions?
- Which one is the best?
- What is its main limitation?
- What do you hope to achieve?
Pay attention to the following

- Before you present your new data, put them into perspective first

- Be brief, it is **not** a history lesson

- Do not mix introduction, results, discussion and conclusions. Keep them separate

- Do not overuse expressions such as “novel”, “first time”, “first ever”, “paradigm shift”, etc.

- Cite only relevant references
  - Otherwise the editor and the reviewer may think you don’t have a clue where you are writing about
Methods / Experimental

• Include all important details so that the reader can repeat the work.
  • Details that were previously published can be omitted but a general summary of those experiments should be included
• Give vendor names (and addresses) of equipment etc. used
• All chemicals must be identified
  • Do not use proprietary, unidentifiable compounds without description
• Present proper control experiments
• Avoid adding comments and discussion.
• Write in the past tense
  • Most journals prefer the passive voice, some the active.
• Consider use of Supplementary Materials
  • Documents, spreadsheets, audio, video, .....

Reviewers will criticize incomplete or incorrect descriptions, and may even recommend rejection
Experiments on humans or animals must follow applicable ethics standards

- e.g. most recent version of the Helsinki Declaration and/or relevant (local, national, international) animal experimentation guidelines

Approval of the local ethics committee is required, and should be specified in the manuscript

Editors can make their own decisions as to whether the experiments were done in an ethically acceptable manner

- Sometimes local ethics approvals are way below internationally accepted standards
Results – what have you found?

- The following should be included
  - the main findings
    - Thus not all findings
    - Findings from experiments described in the Methods section
  - Highlight findings that differ from findings in previous publications, and unexpected findings
  - Results of the statistical analysis
Results – Figures and tables

- Illustrations are critical, because
  - Figures and tables are the most efficient way to present results
  - Results are the driving force of the publication
  - Captions and legends must be detailed enough to make figures and tables self-explanatory
  - No duplication of results described in text or other illustrations

"One Picture is Worth a Thousand Words"
Sue Hanauer (1968)
Results – Appearance counts!

- **Un-crowded plots**
  - 3 or 4 data sets per figure; well-selected scales; appropriate axis label size; symbols clear to read; data sets easily distinguishable.

- Each photograph must have a scale marker of professional quality in a corner.

- Text in photos / figures in English
  - Not in French, German, Chinese, Korean, ...

- Color must be visible and distinguishable when printed in black & white.

- Do not include long boring tables!
Discussion – what do the results mean?

- It is the most important section of your article. Here you get the chance to SELL your data!
  - Many manuscripts are rejected because the Discussion is weak

- Check for the following:
  - How do your results relate to the original question or objectives outlined in the Introduction section?
  - Do you provide interpretation for each of your results presented?
  - Are your results consistent with what other investigators have reported? Or are there any differences? Why?
  - Are there any limitations?
  - Does the discussion logically lead to your conclusion?

- Do not
  - Make statements that go beyond what the results can support
  - Suddenly introduce new terms or ideas
Conclusions

- Present global and specific conclusions
- Indicate uses and extensions if appropriate
- Suggest future experiments and indicate whether they are underway
- Do not summarize the paper (The abstract is for that purpose)
- Avoid judgments about impact
References: Get them right!

- Please adhere to the Guide for Authors of the journal
- It is your responsibility, not of the Editor’s, to format references correctly!
- Check
  - Referencing style of the journal
  - The spelling of author names, the year of publication
  - Punctuation use
  - Use of “et al.”: “et al.” translates to “and others”,
- Avoid citing the following if possible:
  - Personal communications, unpublished observations, manuscripts not yet accepted for publication
    - Editors may ask for such documents for evaluation of the manuscripts
  - Articles published only in the local language, which are difficult for international readers to find
Supplementary Material

- Data of secondary importance for the main scientific thrust of the article
  - e.g. individual curves, when a representative curve or a mean curve is given in the article itself

- Or data that do not fit into the main body of the article
  - e.g. audio, video, ....

- Not part of the printed article
  - Will be available online with the published paper

- Must relate to, and support, the article
Typical length of a full article

- Not the same for all journals, even in the same field
- “…25-30 pages is the ideal length for a submitted manuscript, including ESSENTIAL data only.”
  - Title page
  - Abstract 1 paragraph
  - Introduction 1.5-2 manuscript pages (double-spaced, 12pt)
  - Methods 2-4 manuscript pages
  - Results & Discussion 10-12 manuscript pages
  - Conclusions 1-2 manuscript pages
  - Figures 6-8
  - Tables 1-3
  - References 20-50
- Letters or short communications usually have a stricter size limitation, e.g. 3,000 words and no more than 5 figures/tables.
Abbreviations

- Abbreviations must be defined on the first use in both abstract and main text.
- Some journals do not allow the use of abbreviations in the abstract.
- Abbreviations that are firmly established in the field do not need to be defined, e.g. DNA.
- Never define an abbreviation of a term that is only used once.
- Avoid acronyms, if possible
  - Abbreviations that consist of the initial letters of a series of words
  - Can be typical “lab jargon”, incomprehensible to outsiders
Your chance to speak to the editor directly

- Submitted along with your manuscript
- Mention what would make your manuscript special to the journal
- Note special requirements (suggest reviewers, conflicts)

Suggested reviewers

[Details of suggested reviewers]

Final approval from all authors

Explanation of importance of research

[Letter text]

Professor H. D. Schmidt
School of Science and Engineering
Northeast State University
College Park, MI 10000
USA

January 1, 2008

Dear Professor Schmidt,

Enclosed with this letter you will find an electronic submission of a manuscript entitled “Mechano-sorptive creep under compressive loading - a micromechanical model” by John Smith and myself. This is an original paper which has neither previously nor simultaneously in whole or in part been submitted anywhere else. Both authors have read, verified, and approved this final version.

Mechano-sorptive is sometimes denoted as accelerated creep. It has been experimentally observed that the creep of paper accelerates if it is subjected to a cyclic moisture content. This is of large practical importance for the paper industry. The present manuscript describes a micromechanical model on the fibre network level that is able to capture the experimentally observed behaviour. In particular, the difference between mechano-sorptive creep in tension and compression is analysed.

John Smith is a PhD student who within a year will present his doctoral thesis. The present paper will be a part of that thesis.

Three potential independent reviewers who have excellent expertise in the field and would be useful for this paper are:

Dr. Fernandez, Tennessee Tech, email1@university.com
Dr. Chen, University of Maine, email2@university.com
Dr. Singh, Colorado School of Mines, email3@university.com

I would very much appreciate if you would consider the manuscript for publication in the International Journal of Science.

Sincerely yours,

A. Professor
What not to do: Publishing Ethics

When it comes to publishing ethics abuse, the much used phrase “Publish or Perish” has in reality become “Publish and Perish”!
Ethics Issues in Publishing

Scientific misconduct
- Falsification of results

Publication misconduct
- Plagiarism
  - Different forms / severities
  - The paper must be original to the authors
- Duplicate publication
- Duplicate submission
- Appropriate acknowledgement of prior research and researchers
- Appropriate identification of all co-authors
- Conflict of interest
International scientific ethics have evolved over centuries and are commonly held throughout the world.

Scientific ethics are not considered to have national variants or characteristics – there is a single ethical standard for science.

Ethics problems with scientific articles are on the rise globally.

M. Errami & H. Garner
A tale of two citations
Data fabrication and falsification

*Fabrication*: Making up data or results, and recording or reporting them

“... the fabrication of research data ... *hits at the heart of our responsibility to society*, the reputation of our institution, the trust between the public and the biomedical research community, and our personal credibility and that of our mentors, colleagues…”

“It can *waste the time of others*, trying to replicate false data or designing experiments based on false premises, and can lead to therapeutic errors. It can never be tolerated.”

Professor Richard Hawkes
Department of Cell Biology and Anatomy
University of Calgary

“*The most dangerous of all falsehoods is a slightly distorted truth.*”

G.C.Lichtenberg (1742-1799)
Falsification:
- Manipulation of research materials, equipment, processes
- Changes in / omission of data or results such that the research is not accurately represented in the research record

“Select data to fit a preconceived hypothesis:
- We do not include (data from) an experiment because ‘it did not work’, or
- We show ‘representative’ images that do not reflect the total data set, or
- We simply shelve data that do not fit.”

Richard Hawkes
A Massive Case Of Fraud
Chemical & Engineering News
February 18, 2008

Journal editors are left reeling as publishers move to rid their archives of scientist's falsified research
William G. Schulz

A CHEMIST IN INDIA has been found guilty of plagiarizing and/or falsifying more than 70 research papers published in a wide variety of Western scientific journals between 2004 and 2007, according to documents from his university, copies of which were obtained by C&EN. Some journal editors left reeling by the incident say it is one of the most spectacular and outrageous cases of scientific fraud they have ever seen.

Plagiarism and fake publications of Anwar Tumur

Anwar Tumur (University of Ningxia, Yunchi, People's Republic of China) received a Swiss Federal Commission for Scholarships for Switzerland from July 2003 to July 2004. From July to October 2003 he attended a French course in Fribourg, Switzerland, from October 2003 to July 2004. During this time, he had free access to our infrastructure and contributed to a mammal (rodent) in set aside areas under my supervision. (November 2003 to May 2004) A Tumur did field work (2) collected is barely sufficient for a publication. He wrote depth to correct the poor English and weed out many flaw Chinas, he asked me whether I would agree to have this repo the text would not be modified. Anwar Tumur only sent identical to study was a copy of the

Plagiarism and fake publications of Anwar Tumur

Anwar Tumur (University of Ningxia, Yunchi, People's Republic of China) received a Swiss Federal Commission for Scholarships for Switzerland from July 2003 to July 2004. From July to October 2003 he attended a French course in Fribourg, Switzerland, from October 2003 to July 2004. During this time, he had free access to our infrastructure and contributed to a mammal (rodent) in set aside areas under my supervision. (November 2003 to May 2004) A Tumur did field work, which had to be edited in depth to correct the poor English and weed out many flaws agreed, assuming that the text would not be modified. Anwar Tumur only sent the abstract.

The study was published in Acta Theriologica Sinica 2(5):254-260, 2005. Anwar never sent me all the information gathered by Anwar Tumur during his stay in Switzerland is included in the also incidentally we detected quite recently 5 other publications which were never authorized by me published or unpublished results of our scientific work, but they also contain data which are core authorship. This is completely unacceptable since the publication of fake data will damage my name I would not agree to co-author a publication based on data already published elsewhere or what to the editors and reviewers. Anwar Tumur intentionally misled and fooled the scientific community published with our agreement, and we examined it in more detail. To our astonishment, we real.

The incriminated publications:

Chinese scientists dismissed after 70 suspect papers

[BEIJING] Two Chinese university lecturers have been dismissed after 70 papers they published in an international journal were revoked because of alleged fraud.

Hua Zhang and Taizhou University in scull the papers in 2009

"Although the Chinese government declares zero tolerance on academic fraud, in practice, few researchers are seriously punished for their misconduct. Universities tend to cover for those offenders with high academic status for fear of their power and the reputation of the school" said Fang

Chinese scientists dismissed after 70 suspect papers


"A researcher is rewarded and promoted largely based on the number of published papers, which poses dangerous incentives for researchers to commit fraud" he said
• A short-cut to long-term consequences!

• Plagiarism is considered a serious offense by your institute, by journal editors, and by the scientific community.

• Plagiarism may result in academic charges, but will certainly cause rejection of your paper.

• Plagiarism will hurt your reputation in the scientific community.
Duplicate publication

- Two or more papers, without full cross reference, share the same hypotheses, data, discussion points, or conclusions.

- An author should not submit for consideration in another journal a previously published paper.
  - Published studies do not need to be repeated unless further confirmation is required.
  - Previous publication of an abstract during the proceedings of conferences does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission.
  - Re-publication of a paper in another language is acceptable, provided that there is full and prominent disclosure of its original source at the time of submission.
  - At the time of submission, authors should disclose details of related papers, even if in a different language, and similar papers in press.
  - This includes translations.
Plagiarism Detection Tools

- Elsevier is participating in 2 plagiarism detection schemes:
  - TurnItIn (aimed at universities)
  - IThenticate (aimed at publishers and corporations)

Manuscripts are checked against a database of 20 million peer reviewed articles which have been donated by 50+ publishers, including Elsevier.

All post-1994 Elsevier journal content is now included, and the pre-1995 is being steadily added week-by-week

- Editors and reviewers
- Your colleagues
- "Other" whistleblowers
  - “The walls have ears", it seems ...
Publication ethics – Self-plagiarism

Same colour left and right
Same text
An article in which the authors committed plagiarism: it will not be removed from ScienceDirect ever. Everybody who downloads it will see the reason for the retraction...
Hungarian president resigns over doctorate plagiarism scandal
Pal Schmitt steps down after university revokes doctorate, saying Olympics thesis was mostly copied from two authors

Associated Press in Budapest
guardian.co.uk, Monday 2 April 2012 13:29 BST

The Hungarian president, Pal Schmitt, has announced his resignation.
Photograph: Matej Divizna/EPA
The Hungarian president, Pal Schmitt, has announced he will resign after losing his doctorate in a plagiarism scandal.

German minister loses doctorate after plagiarism row

Germany's defence minister has been stripped of his university doctorate after he was found to have copied large parts of his work from others.

Karl-Theodor zu Guttenberg, an aristocrat who lives in a Bavarian castle, admitted breaching standards but denied deliberately cheating.

Analysis revealed that more than half of his thesis had long sections lifted word-for-word from the work of others.

So far the German Chancellor, Angela Merkel, has stood by the minister.

The University of Bayreuth decided that Mr Guttenberg had "violated scientific duties to a considerable extent".

It deplored the fact that he had lifted sections of text without attribution.

Last week Mr Guttenberg said he would temporarily give up his PhD title while the university investigated the charges of plagiarism. He admitted that he had made "serious mistakes".


Chancellor Merkel insisted on Monday that she was standing by her defence minister, who was seen as something of a rising star in her conservative coalition.
Figure Manipulation – *some* things are allowed

As long as they don’t obscure or eliminate info present in the original image

Brightness
Contrast
Colour Balance
Nonlinear adjustments

Must be disclosed in the figure legend

Enhanced
Obscured
Moved
Removed
Introduced
Figure manipulation
Example - Different authors and reported experiments

Am J Pathol, 2001

Life Sci, 2004

Rotated 180°

Zoomed out ?!
The Peer Review Process
Purpose of Peer Review

Check the manuscript for

- Mistakes in procedures or logic
- Conclusions not supported by the results
- Errors or omissions in the references
- Compliance with ethics standards
  - Has the protocol been approved by an appropriate Ethics Committee?
    - Animal research: e.g. “Guiding Principles in the Care and Use of Laboratory Animals”
    - Human research: Most recent “Declaration of Helsinki”
- Originality and significance of the work
Suggest potential reviewers

- Your suggestions will help the Editor to move your manuscript to the review stage more efficiently.
- You can easily find potential reviewers and their contact details from articles in your specific subject area (e.g., your references).
- The reviewers should represent at least two regions of the world. And they **should not** be your supervisor or close friends.
- Be prepared to suggest 3 -6 potential reviewers, based on the Guide to Authors.
No one gets it right the first time!
  - Write, and re-write ....

Suggestions
  - After writing a first version, take several days of rest. Come back with a critical, fresh view.
  - Ask colleagues and supervisor to review your manuscript. Ask them to be highly critical, and be open to their suggestions.
The Peer Review Process – not a black hole!

http://www.pri.univie.ac.at/~derntl/papers/meth-se.pdf
Regular articles are initially reviewed by at least two reviewers

When invited, the reviewer receives the Abstract of the manuscript

The editor generally requests that the article be reviewed within reasonable time (varies per field), limited extensions sometimes acceptable

Articles are revised until the two reviewers agree on either acceptance or rejection, or until the editor decides that the reviewer comments have been addressed satisfactorily

The reviewers’ reports help the Editors to reach a decision on a submitted paper
• The reviewer recommends; the editor decides!
Review Process (iii)

- Reviewers do *not* communicate directly with authors

- All manuscripts and supplementary material must be treated confidentially by editors and reviewers
  - The manuscript cannot be distributed outside this small group

- The aim is to have a “first decision” to the authors as fast as possible after submission of the manuscript

- Meeting these schedule objectives requires a significant effort on the part of the Editorial staff, Editor and Reviewers

- If reviewers treat authors as they themselves would like to be treated as authors, then these objectives can be met

As a researcher, you wear many hats!
Many journals use a system of initial editorial review. Editors may reject a manuscript without sending it for review.

Why?

- The peer-review system is **grossly overloaded** and editors wish to use reviewers only for those papers with a good probability of acceptance.

- It is a **disservice** to ask reviewers to spend time on work that has clear and evident deficiencies.
The Editor-in-chief evaluates all submissions, and determines whether they go into the review process or are rejected by the editor.

Criteria

- Example – “Rules-of-Three” in the European Journal of Pharmaceutics and Biopharmaceutics
  - Out of scope
  - Too preliminary
  - Lack of Novelty
- English language is inadequate
- Prior publication of (part of) the data
- Multiple simultaneous submissions of same data
- Etc., each with specific examples
First Decision: “Accepted” or “Rejected”

Accepted

- Very rare, but it happens

- Congratulations!
  - Cake for the department
  - Now wait for page proofs and then for your article to be online (and in print)

Rejected

- Probability 40-90% ...
- Do not despair
  - It happens to everybody
- Try to understand WHY
  - Consider reviewers’ advice
  - Be self-critical
- If you submit to another journal, begin as if it were a new manuscript
  - Take advantage of the reviewers’ comments
  - They may review your manuscript for the other journal too
  - Read the Guide for Authors of the new journal, again and again.
Reviewers look at:

- Importance and clarity of research hypothesis
- Originality of work
- Delineation of strengths and weaknesses of methodology, experimental / statistical approach, interpretation of results
- Writing style and figure / table presentation
- Ethics concerns (animal / human)
Quality of the work

Are the methods appropriate and presented in sufficient detail to allow the results to be repeated?

Are the data adequate to support the conclusions?

1. Do all “methods” have a “results”?
2. Have all “results” been described in the “Methods”?

1. Are all “conclusions” based on “results”?
Reviewer comments to the Editors

- Comment on novelty and significance

- Recommend whether the manuscript is suitable for publication or not, usually
  - Accept / Minor revision / Major Revision / Reject

Reviewer makes a recommendation

Editor makes the decision

- Confidential comments will not be disclosed to author(s)!
# Reviewer Checklist

Confidential checklist meant for editor’s eyes only

<table>
<thead>
<tr>
<th>Rating Scale</th>
<th>Top 10%_____ Top 25% ____ Top 50%_____ Lower 50%_____. For each of Experimental Design, Data Quality, Originality, Overall priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manucript Length</td>
<td>OK ______ E(xpand) ______ S(horten) _______. For each of Abstract, Introduction, Methods, Results, Discussion, References</td>
</tr>
<tr>
<td>Recommendation to editor</td>
<td>Accept / Minor revision / Major Revision / Reject</td>
</tr>
</tbody>
</table>
# Reviewer Checklist

## Confidential checklist meant for editor’s eyes only

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the article within the scope of the journal?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the article be more appropriately published in a specialist journal?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can the article be condensed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If so, where: Figures Figure legends Tables Text</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the language acceptable?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there portions of the manuscripts which require further clarification?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If so, where?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On a scale from 1 (poor) to 5 (outstanding), how do you rate

- Novelty, New knowledge in **xyz**
- Experimental design
- Evaluation of data
- Discussion of results
- Clarity of presentation

The article should be

- Accepted without change
- Accepted after minor revision
- Accepted after condensation
- Reconsidered after major revision
- Rejected

Confidential comments to the editor: [free text]
What can you get back from peer review?

- Accepted without change (very rare!)
- Accepted after minor revision (means you will have to change a few things)
- Accepted after consideration (means you will have to rewrite a few things, possibly sections, figures, provide more data, etc)
- Reconsider after mayor revision (means you will have to dares some fundamental shortcomings – possibly doing additional research and certainly rewriting big sections)
- Rejection (means the manuscript is not deemed suitable for publication in that journal)
Reviewer comments to Authors

- Provides specific comments on the design, presentation of data, results, and discussion
  - Do not include recommendations for acceptance / rejection

- Reviewers should ensure that the comments to the author(s) are consistent with recommendations to the editors
Manuscript Revision

- Prepare a detailed Response Letter
  - Copy-paste each reviewer comment, and type your response below it
  - State specifically which changes you have made to the manuscript
    - Include page/line numbers
    - No general statements like “Comment accepted, and Discussion changed accordingly.”
  - Provide a scientific response to comments to accept, ..... 
  - ..... or a convincing, solid and polite rebuttal when you feel the reviewer was wrong.
  - Write in such a manner, that your response can be forwarded to the reviewer without prior editing

- Do not do yourself a disfavour, but cherish your work
  - You spent weeks and months in the lab or the library to do the research
  - It took you weeks to write the manuscript........

.....Why then run the risk of avoidable rejection by not taking manuscript revision seriously?
Increasing the likelihood of acceptance

All these various steps are not difficult

You have to be consistent.

You have to check and recheck before submitting.

Make sure you tell a logical, clear, story about your findings.

Especially, take note of referees’ comments.

This should increase the likelihood of your paper being accepted, and being in the 30% (accepted) not the 70% (rejected) group!
What leads to acceptance?

- Attention to details
- Check and double check your work
- Consider the reviewers’ comments
- 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

– Nigel John Cook
Editor-in-Chief, Ore Geology Reviews
There are lots of online resources....

Elsevier and many other publishers give lots of helpful advice, as do many scientific societies and universities – go look!
Article of the Future

Traditional & PDF-like

Task-based

Navigation

Add value & Context
References and Acknowledgements

- Guide for Authors of Elsevier journals.
- [http://owl.english.purdue.edu/owl/](http://owl.english.purdue.edu/owl/)
- Petey Young. Writing and Presenting in English. The Rosetta Stone of Science. Elsevier 2006
- EDANZ Editing training materials. 2006
- Jullian Eastoe. Co-editor, Journal of Colloid and Interface Science
- Peter Thrower. Editor-in-chief, Carbon
- Roel Prins. Editor-in-chief, Journal of Catalysis
- Nigel Cook. Editor-in-chief, Ore Geology Reviews.
- Frans P. Nijkamp, Journal of Ethnopharmacology
- Wilfred CG Peh. Editor, Singapore Medical Journal
- Malcolm W. Kennedy. Professor, Institute of Biomedical and Life Sciences, University of Glasgow, UK
Further reading for you

  - http://www.publicationethics.org.uk/guidelines
  - http://www.icmje.org/index.html#ethic
  - http://www.onlineethics.org/
  - http://owlenglish.purdue.edu/owl/
- Thomas H Adair. Professor, Physiology & Biophysics Center of Excellence in Cardiovascular-Renal Research, University of Mississippi Medical Center. http://dor.umc.edu/ARCHIVES/WritingandpublishingaresearcharticleAdair.ppt
- Bruce Railsback. Professor, Department of Geology, University of Georgia. Some Comments on Ethical issues about research. www.gly.uga.edu/railsback/11111misc/ResearchEthics.html
Thank you!

Or for questions later, please contact m.lamine@elsevier.com