



How to Write a World Class Paper

From title to references

From submission to revision



Outlines

- Current status of Chinese articles
- Why do scientists publish?
- What is a good manuscript?
- How to write a good manuscript for an international journal
 - Preparations before starting
 - Construction of an article
 - Technical details
- Revision, and response to reviewers
- Ethical issues
- Conclusion: what gets you accepted?
- Appendix: Language



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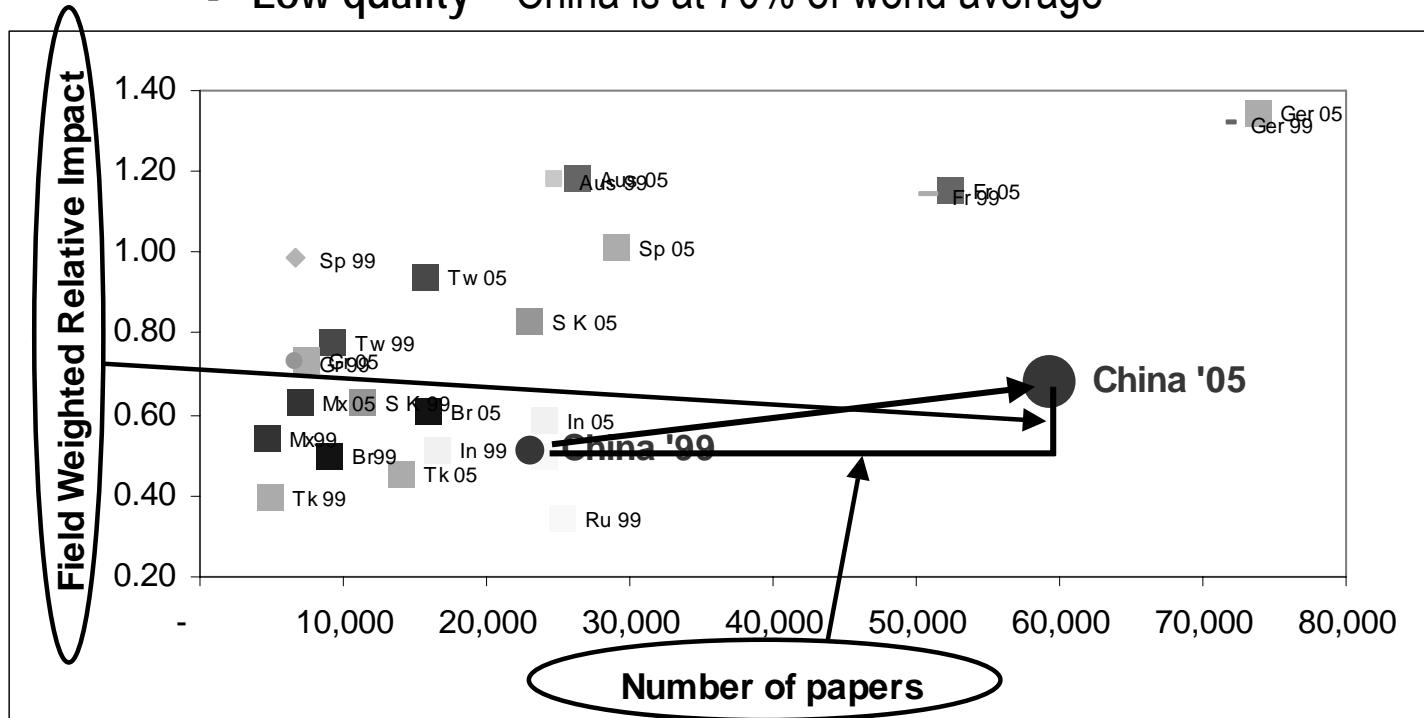
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Current status of Chinese articles

- High quantity – exponential growth since 1999
- Low quality – China is at 70% of world average



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Comparison: China and US acceptance rates for Elsevier journals

	2005	2006	2007(Jan. – Jun.)			
	Number of submissions	Rate of acceptance	Number of submissions	Rate of acceptance	Number of submissions	Rate of acceptance
China	25,696 (14%)*	24%	59,161 (15%)*	26%	40,333 (15%)*	24%
US	35,973 (20%)*	58%	62,775 (16%)*	55%	43,784 (17%)*	51%
Total	189,343	42%	386,557	40%	261,867	38%

Selection of Elsevier Editorial Outflow Statistics

* Number of submissions from the country / Total number of submissions Elsevier received.

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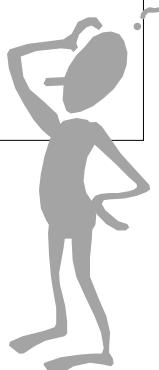
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One reason of the explosion in quantity:
Publication is the most important measure for
researchers in China...

Number of publications

- Number of publications in international journals
- Number of publications included by EI, SCI
- Impact factor of the journal in which an article is published
- ...

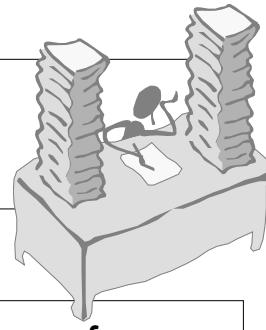


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**High submissions + Low quality
→ STRESS for editors and reviewers...**



Editors and reviewers are the most precious resource of a journal!

- Editors and reviewers are practicing scientists, even leaders in their fields. They are not professional journal staff – they do journal work on the side of their own research, writing and teaching.
- They are busy people who work for journals to contribute to science.
- Editors may receive a small payment, but reviewers are UNPAID.



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An international editor says...

- “A great deal of excellent research is submitted from China.”
- “I have encountered the following serious issues on an occasional basis (but more often than I would like)...”
 - Multiple submission of the same manuscript to two or more journals
 - Submission of a paper already published in Chinese
 - Plagiarism (especially of small parts of a paper)”
- “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*



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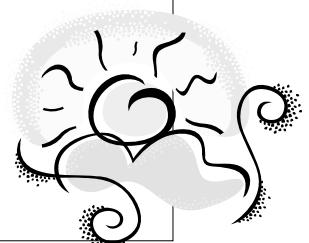
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...and our publishing advice is as follows:



- Submit to the right journal (scope and prestige)
- Submit to one journal only
- Do not submit “salami” article
- Pay attention to journal requirements
- Pay attention to structure
- Check the English
- Pay attention to ethical standards



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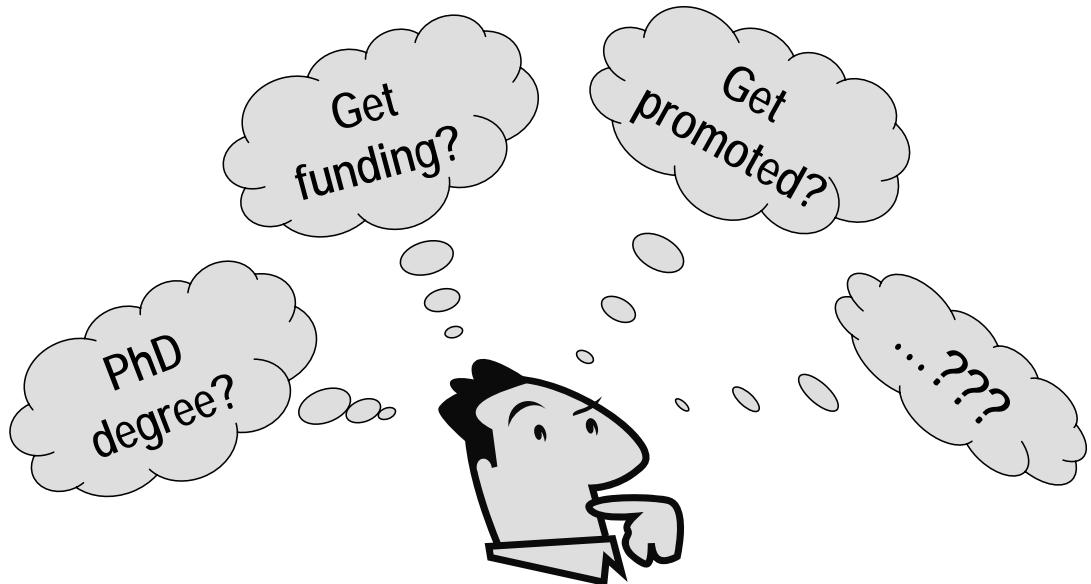


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What is your personal reason for publishing?



- However, editors, reviewers, and the research community don't care about these reasons.



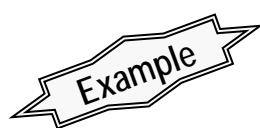
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Why should scientists publish?

- Scientists publish to share with the science COMMUNITY something that advances, not repeats, knowledge and understanding in a certain field.



“In determining the suitability of submitted articles for publication, particular scrutiny will be placed on the degree of novelty and significance of the research and the extent to which it adds to existing knowledge in separation science.”

– Aims and Scope, *Journal of Chromatography A*



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Publish or Perish?

“There are three necessary steps in useful research: the first to begin it, the second to end it and the third to publish it.”

– M. Faraday

Being published ≠ Immortality.



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“Surely you were aware when you accepted the position, Professor, that it was publish or perish.”

– Thomas H. Adair, Professor, University of Mississippi

Your paper is worthless if no one reads, uses, or cites it

“A research study is meaningful only if someone else uses it in his/her studies. For this to happen a paper has to be written in a way that arouses other scientists' interest and allows others to reproduce the results. Only an understandable study can be reproduced. Only a reproducible work enables others to follow the lead. The number of scientists following the lead is a measure of the impact of a research study. Thus, in a way, a research study has to make a 'sale' to other scientists.”

– ZHOU Yaoqi, Professor.

Indiana University School of Informatics, IUPUI

<http://sparks.informatics.iupui.edu>



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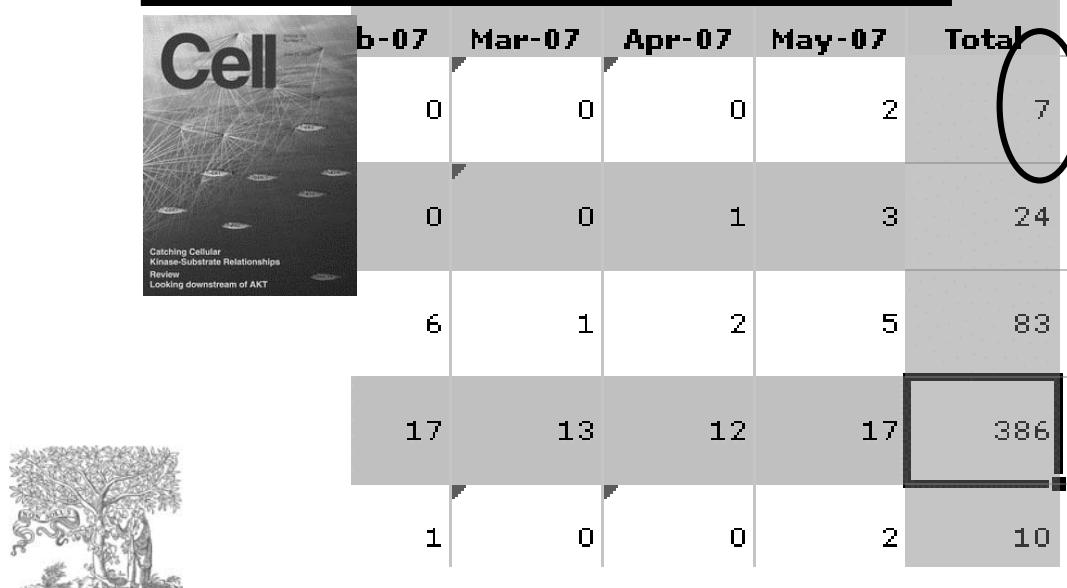
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Even high impact factor journals have articles that get no citation or very low downloads

Articles with low downloads

Selection from the Full-text usage report: *Cell*, articles published in 2005 (2007.6)



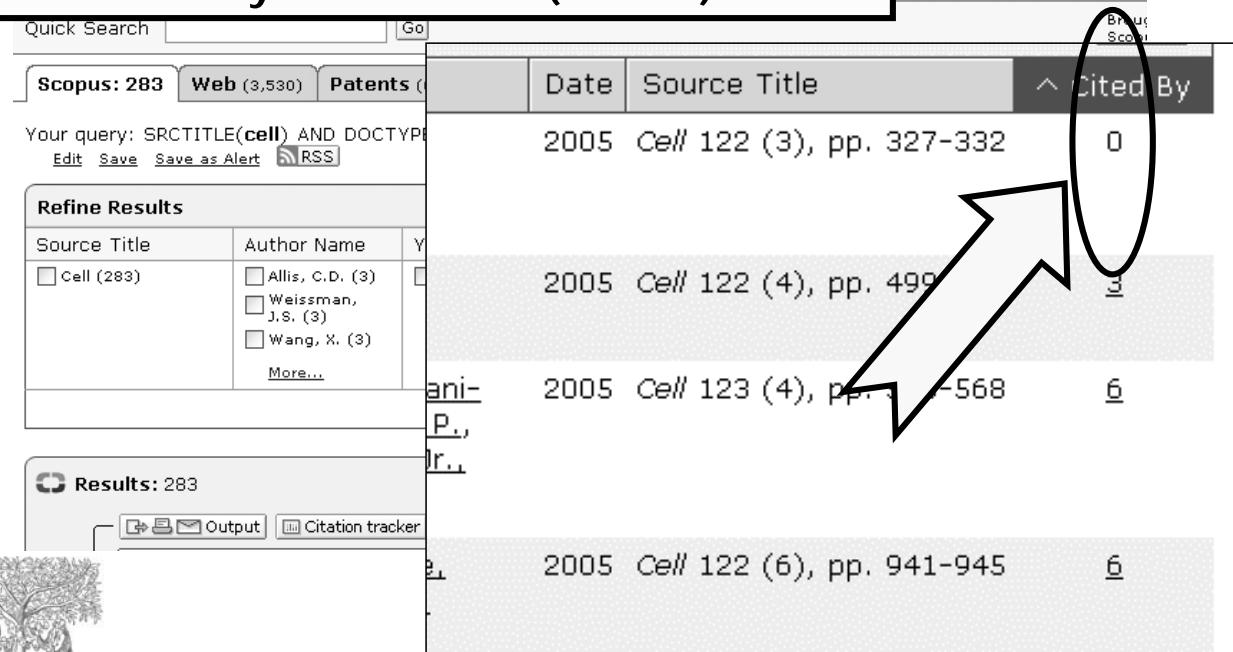
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Non-cited papers in high IF journals

Citations of the Articles published in *Cell* at the year of 2005. (2007.6)



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Journal publishers do not want zero-cited articles

- Editors now regularly analyze citations per article.

“The statistic that 27% of our papers were not cited in 5 years was disconcerting. It certainly indicates that it is important to maintain high standards when accepting papers... nothing would have been lost except the CV's of those authors would have been shorter...”

– Marv Bauer, Editor, *Remote Sensing of Environment*

- Articles will increasingly be checked on originality and relevance. Acceptance will get even harder.



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A journal is the gateway to a COMMUNITY of researchers with a common interest.

- Journals are the prime carrier of scholarly communication.
- New research relies on relevant information
- Journal Editors + Reviewers + Authors + Readers
→ A community of scientists

You paper is your passport to your community



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When you submit a paper, many people invest in you.

- Editors and reviewers invest time in considering, revising, and editing your paper;
- Researchers invest time in exploring your ideas and findings;
- Publishers invest time and resources organizing the review process, and building reviewing systems



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ScienceDirect

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Is your paper worth people's time?

- QUALITY and VALUE is at the heart of the scholarly communication system. Journals do not want:
 - Reports of no scientific interest
 - Work out of date
 - Duplications of previously published work
 - Incorrect/unacceptable conclusions
 - “Salami” papers: datasets too small to be meaningful



“Just because it has not been done before is no justification for doing it now.”

– Peter Attiwill, Editor-in-Chief, *Forest Ecology and Management*

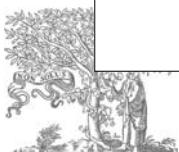


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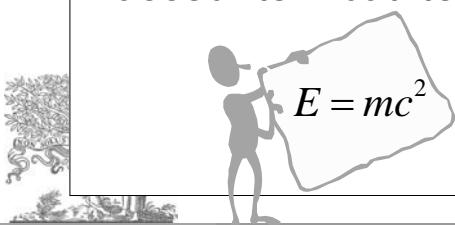
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A good manuscript leads readers to scientific significance immediately.

- Content is essential
 - Contains a scientific message that is clear, useful, and exciting
- Presentation is critical
 - Conveys the authors' thoughts in a logical manner such that the reader arrives at the same conclusions as the author
 - Constructed in the format that best showcases the authors' material, and written in a style that transmits the message clearly

"Good science deserves good presentation, not the sloppy accounts I read too often."



– Peter Thrower, Editor-in-chief, *Carbon*
 Writing a Scientific Paper: I. Titles and Abstracts,
Carbon (2007), doi:10.1016/j.carbon.2007.07.009

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Work hard to satisfy readers' expectations.

- **What readers want –**

- “The potential readers of your paper have a diverse level of expertise in your field...the paper should be written simply enough to make it understandable and reproducible by graduate students and deep enough to attract the interests of experts.”
- “All scientists (students or their advisors) are usually very busy... They usually hope to find the most important information in a paper very quickly...it is important to write a well-structured (linked) paper that allows readers to search for information quickly.”
- “In addition, a paper will be widely cited/used only if its significance can be understood without much effort. Letting readers to find things where they expect to find is the key to the clarity of a paper.”
 - ZHOU Yaoqi, professor, Indiana University School of Informatics, IUPUI
http://sparks.informatics.iupui.edu/Publications_files/write-english.pdf

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1. Check the originality of your idea at the very beginning of your research.

- Have you done something new and interesting?
- Is there anything challenging in your work?
- Is the work directly related to a current hot topic?
- Have you provided solutions to any difficult problems?

If all answers are “yes”, then start preparing your manuscript.



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TRACK the latest results regularly in your field. New and relevant articles get published all the time.

Scopus: 356 Web (15,108) Patents (81) SelectedSources (17) Search your library

Example

Your query: (TITLE-ABS-KEY(mcmc) AND TITLE-ABS-KEY(parameter estimation))

Save as Alert RSS

Refine Results

Source Title

ICASSP IEEE International Conference on Acoustics Speech and Signal Processing Proceedings (24)

Computational Statistics and Data Analysis (16)

Statistics in Medicine (9)

More...

Author Name

Doucet, A. (13)

Andrieu, C. (10)

Godsill, S.J. (9)

More...

Year

2007 (33)

2006 (71)

2005 (59)

More...

Document Type

Article (342)

Review (14)

Results: 356

Search within results

“Save as Alert”: Remind yourself about the new findings.

Document (sort by relevance)

Author(s)

Date

Source Title

1. A two-state regime switching autoregressive model with an application to river flow analysis Vasas, K., Elek, P., Márkus, L. 2007 Journal of Stochastic Planning and Optimization 137 (10), pp. 137-147

Abstract + Refs View at Publisher Full Text + Show Abstract

Subject Areas

Life Sciences (> 3,400 titles)

Chemical Name

CAS Number

Phy

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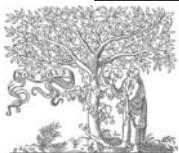
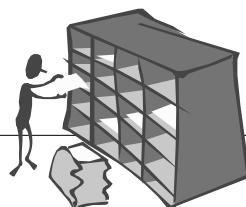
2. Decide the type of your manuscript

- Full articles/Original articles: the most important papers; often substantial, completed pieces of research that are of significance.
- Letters/Rapid Communications/Short communications: usually published for quick and early communication of significant and original advances; much shorter than full articles (usually strictly limited).
- Review papers/perspectives: summarize recent developments on a specific topic; highlight important points that have been previously reported and introduce no new information; often submitted on invitation.



2. Decide the type of your manuscript

- 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.



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3. Who is your audience?

“One seldom writes for oneself... it is of great importance to identify the sector of readership for which a paper is meant. A paper written in abstruse mathematical language cannot be appreciated by the practical engineer who is interested in acquiring something for immediate use. On the other hand, for a scientific conference, a paper written in the style of a practicum would probably put the author to disgrace.”

– Mooson Kwauk, Academician, Chinese academy of Sciences



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Topics of *local or national* relevance are sometimes not interesting for an *international audience*.

Example

↓ Document (sort by relevance)	Author(s)	Date	Source Title	↑ Cited B
1. <input type="checkbox"/> Estimated surface-wave contributions to radar Doppler velocity measurements of the ocean surface Abstract + Refs View at Publisher	Gelpi, C.G., Norris, K.E.	2003	Remote Sensing of Environment 87 (1), pp. 99-110	0
2. Structure and function of air plumes in the performance of an imaging system Great Barrier Reef: A airborne sea surface Abstract + Refs View at Publisher Full Text	Burrage, D.M., Heron, M.L., Hacker, J.M., Miller, J.L., Stieglitz, T.C.	2003	Remote Sensing of Environment 85 (2), pp. 204-220	0
3. <input type="checkbox"/> Linescan camera evaluation of SSM/I 85.5 GHz sea ice retrieval Abstract + Refs View at Publisher Full Text				0
4. <input type="checkbox"/> Airborne remote sensing of breaking waves Abstract + Refs View at Publisher Full Text				0
5. <input type="checkbox"/> Satellites for the evolution of herb near Taiwan Abstract + Refs View at Publisher Full Text	Chen, K.S., Wang, J.T., Mitnik, L.M.	2001	Remote Sensing of Environment 75 (3), pp. 397-411	0
6. <input type="checkbox"/> A simple physical model of vegetation reflectance for standardising optical satellite imagery Abstract + Refs View at Publisher Full Text	Dymond, J.R., Shepherd, J.D., Qi, J.	2001	Remote Sensing of Environment 75 (3), pp. 350-359	0
7. <input type="checkbox"/> Educational outreach activities for Landsat-7 Abstract + Refs View at Publisher Full Text	Merry, C.J., Stockman, S.	2001	Remote Sensing of Environment 78 (1-2), pp. 217-220	0
8. <input type="checkbox"/> OCTS-derived chlorophyll-a concentration and oceanic structure Joban/K. coast of Japan Abstract	Yokouchi, K., Takeshi, K., Matsumoto, I., Fujiwara, G., Kawamura, H., Okuda, K.	2000	Remote Sensing of Environment 73 (2), pp. 188-197	0
9. <input type="checkbox"/> GOES-8 imagery as a new source of data to conduct ocean feature tracking Abstract	Breaker, L.C., Krasnopolsky, V.M.	2000	Remote Sensing of Environment 73 (2), pp. 188-197	0

Can you distinguish a trend in these articles that do NOT get cited?

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4. Choose the right journal

- Investigate all candidate journals to find out:
 - Aims and scope
 - Types of articles
 - Readership
 - Current hot topics (go through recent abstracts)

Volume 54, Issue 2, Pages 193-318 (August 2007)

Article List Full Abstracts

[Display Selected Articles](#) [E-mail Articles](#) [Export Citation](#)

1. **Editorial Board**
Page 1FC
PDF (582 K)

Example

2. **Cloning, expression, purification and functional characterisation of the human protein kinase C-β1**
Raser, Najib Nematpoor, Reulika B. Gupta
links | PDF (397 K)

SummaryPlus

<http://www.sciencedirect.com/science/journal/10465928>

sevier.com/wps/find/journaldescription.cws_home/622935/description#description

PROTEIN EXPRESSION AND PURIFICATION

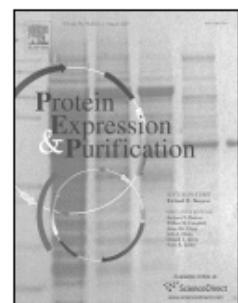
Editor-in-Chief:

R.R. Burgess

See [editorial board](#) for all editors information

Description

Example



The power of modern molecular genetics to provide large quantities of proteins that were previously difficult to obtain has sparked an explosion of interest in both practical and theoretical aspects of protein purification.

Protein Expression and Purification is dedicated to providing a forum for information about protein isolation based on conventional fractionation as well as techniques employing various molecular biological procedures to increase protein expression.

The following types of articles are published:

- Original articles reporting novel or significantly improved isolations of highly purified proteins
- Procedures for expressing and isolating proteins from genetically engineered sources
- Novel or improved molecular biological methods for overexpression of specific proteins
- Review articles that describe an approach to the expression and purification

Audience
Biochemists, biophysicists

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4. Choose the right journal

- You must get help from your supervisor or colleagues. Chase them if necessary.
- Articles in your references will likely lead you to the right journal.
- DO NOT gamble by scattering your manuscript to many journals. Only submit once! International ethics standards prohibit multiple/simultaneous submissions, and editors DO find out!



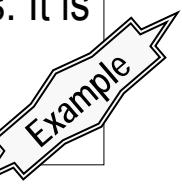
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5. Read the 'Guide for Authors'! Again and again!

- Apply the Guide for Authors to your manuscript, even to the first draft (text layout, paper citation, nomenclature, figures and table, etc.). It will save your time, and the editor's.
- All editors hate wasting time on poorly prepared manuscripts. It is a sign of disrespect.



PROTEIN EXPRESSION AND PURIFICATION

Editor-in-Chief:

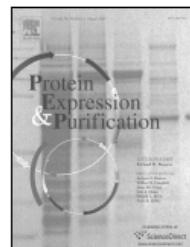
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Protein Expression and Purification is dedicated to providing a forum for information about protein isolation based on conventional fractionation as well as techniques



For Readers

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For Editors

[Tracking for Editors](#)

Related websites

[Aid to Index](#)
[Artwork Instructions](#)

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"Guide for Authors" often contains useful instructions on scientific writing.

"

6 Introduction

Example

The Introduction summarizes the rationale for the study and gives a concise background. Use references to provide the most salient background rather than an exhaustive review. The last sentence should concisely state your purpose for carrying out the study (not methods, results, or conclusion).

...

9 Results

Emphasize or summarize only important observations. Simple data may be set forth in the text with no need for tables or figures. Give absolute values, not merely percentages, particularly for the control values.

Present your results followed by (Table 1 or Figure 2). Do not write "Table 1 shows that" or "Figure 2 demonstrated that."

"

...

– Author guidelines, *Acta Pharmacologica Sinica*

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- How to write a good manuscript for an international journal
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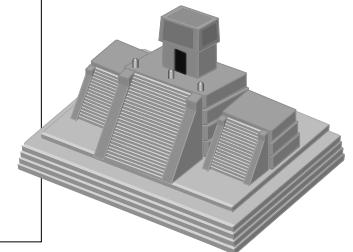
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The general structure of a full article

- Title
- Authors
- Abstract
- Keywords
- Main text (IMRAD)
 - Introduction
 - Methods
 - Results
 - And
 - Discussion (Conclusions)
- Acknowledgements
- References
- Supplementary material

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

Each has a distinct function.



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- The progression of the thematic scope of a paper:
general → particular → general
- However, we often write in the following order:
 - Figures and tables
 - Methods, Results and Discussion
 - Conclusions and Introduction
 - Abstract and title

– For example, if the discussion is insufficient, how can you objectively demonstrate the scientific significance of your work in the introduction?



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1. Title

– what the paper is broadly about

- A good title contains the fewest possible words that adequately describe the contents of the paper.
- Effective titles
 - Identify the main issue of the paper
 - Begin with the subject of the paper
 - Are accurate, unambiguous, specific, and complete
 - Do not contain infrequently-used abbreviations
 - Attract readers



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Journal of Catalysis

Volume 221, Issue 1, 1 January 2004, Pages 11-19

DOI: 10.1016/S0021-9517(03)00264-1
Document Type: Article

the main issue

Example

[View at Publisher](#) [Full Text](#) [2collab](#) [Library Catalogue](#)

Mutual influence of the HDS of dibenzothiophene and HDN of 2-methylpyridine

Egorova, M. Prins, R.

Specific

Inst. for Chem. and Bioengineering, Swiss Fed. Institute of Technology, 8093 Zurich, Switzerland

Abstract

The influence of 2-methylpyridine and 2-methyl dibenzothiophene (DBT) and the effect of DBT on methylpiperidine were studied over a sulfided NiM

The title honestly reflects the subject matter of the paper.

340° C. Both N-containing molecules strongly suppressed the hydrogenation pathway of the hydrodesulfurization of DBT and inhibited the direct desulfurization route at both reaction temperatures. The inhibitory effect on the direct desulfurization was stronger for 2-methylpyridine than for 2-methylpiperidine. H_2S promoted the hydrogenation of 2-methylpyridine up to 10 kPa and inhibited it at higher partial pressures. H_2S had a positive influence on the hydrodenitrogenation conversions of 2-methylpiperidine and 2-methylpyridine. DBT had a negative effect on the hydrogenation of 2-methylpyridine, but did not influence the C-N bond cleavage of 2-methylpiperidine. Therefore, C-N and C-S bond breaking takes place at different active sites, whereas the hydrogenation sites for N- and S-containing molecules may be the same. © 2003 Elsevier Inc. All rights reserved.

Does the title give a full and honest indication of what is in the paper?

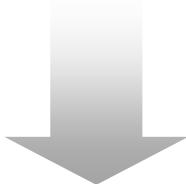
"I recently received a paper whose title indicated that it concerned the preparation of carbon nanoparticles as a filler for polymers. But this was not true! The authors had only examined one polymer..."

Another recent submission had a title that told me that a material was synthesised 'in a gas pressure atmosphere'. I had to read well into the experimental part of the paper before I learned that the atmosphere was argon! There was no indication of this in either the title or the abstract. What the author should have said was 'in high pressure argon'."

– Peter Thrower, Editor-in-chief, *Carbon*
Writing a Scientific Paper: I. Titles and Abstracts,
Carbon (2007), doi:10.1016/j.carbon.2007.07.009

Keep a title short. Remove all uninformative phrases such as "studies on", "the nature of", etc.

- ~~Preliminary observations~~ on the effect of salinity on benthic community distribution within a estuarine system, in the North Sea



- Effect of salinity on benthic distribution within the Scheldt estuary (North Sea)



Be specific

- Fabrication of carbon/CdS coaxial nanofibers displaying optical and electrical **properties** via electrospinning carbon

“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?”

– Peter Thrower, Editor-in-Chief, *Carbon*



- Electrospinning of carbon/CdS coaxial nanofibers with optical and electrical properties



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2. Authors and Affiliations

Put the title of your abstract here using both upper and lower case letters, Times

New Roman, 12 pts, bold, centered, double spaced

A. Author^a, B. Author^b, C. Author^{a,*}

^a Department, University, Street, Postal-Code City, Country

^b Laboratory, Institute, Street, Postal-Code City, Country

* Corresponding author. Tel.: +xx xxx xx xx; fax: +xx xxx xx xx. E-mail address: xxxxx@xxx.xx

Keep your name and affiliation consistent

Ex1. 欧阳钟灿



Standard:

- Ouyang Zhongcan (Ouyang Z.),
GB/T 16159-1996. 汉语拼音正词法基本规则
- OUYANG Zhong-can (Ouyang Z.C.),
中国学术期刊(光盘版)检索与评价数据规范

Following are also found in literature: Ou-yang Zhong-can, Ouyang Zhong-can, Ou-Yang Zhongcan, Ouyang, Z.C, Zhongcan Ouyang, Zhong-can Ou-Yang,

Indicate your family name and given name clearly.



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Alternative spellings lead to online confusion



Ex2. Beijing University of Aeronautics and Astronautics 北京航空航天大学

The screenshot shows five search results panels, each with a circled number indicating the count of results:

- Scopus: 3,570 (circled)
- Scopus: 20 (circled)
- Scopus: 12 (circled)
- Scopus: 7 (circled)
- Scopus: 1,450 (circled)

Each panel includes a search bar with the query and a 'Refine Results' section with checkboxes for source title and author name.

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3. Abstract

– what has been done and what are the main findings

- There are 3 main types of abstract.
 - Indicative (descriptive) abstract outlines the topics covered in a piece of writing so the reader can decide whether to read the entire document. Often used in review articles or conference reports.
 - Informative abstract summarize the article based on the IMRAD structure, but without these words explicitly presented.
 - Structured abstract follows headings required by the journal. Often used in Medical journals.
- Check carefully which type fits the journal of your choice.



Indicative abstract



Signal Processing

Volume 19, Issue 4, April 1990, Pages 259-299

Invited paper

doi:10.1016/0165-1684(90)90158-U

Fast fourier transforms: A tutorial review and a state of the art

P. Duhamel

Background

Abstract. The publication of the Cooley-Tukey fast Fourier transform (FFT) algorithm in 1965 has opened a new area in digital signal processing by reducing the order of complexity of some crucial computational tasks like Fourier transform and convolution from N^2 to $N \log_2 N$, where N is the problem size. The development of the major algorithms (Cooley-Tukey and split-radix FFT, prime factor algorithm and Winograd fast Fourier transform) is reviewed. Then, an attempt is made to indicate the state of the art on the subject, showing the standing of research, open problems and implementations.

Main topic

Issues discussed



Informative abstract



Digital Signal Processing

Volume 17, Issue 5, September 2007, Pages 891-913

Special Issue on Bayesian Source Separation

Variational and stochastic inference for Bayesian source separation

A. Taylan Cemgil^a, 1, Cédric Févotte^b and Simon J. Godsill^a doi:10.1016/j.dsp.2007.03.008

Abstract. We tackle the general linear instantaneous model (possibly underdetermined and noisy) where we model the source prior with a Student t dist. **I** The conjugate-exponential characterisation of the t distribution as an infinite mixture of scaled Gaussians enables us to do efficient inference. We study two well-known inference method: Gibbs sampler and variational Bayes f. Bayesian source separation. We derive both techniques as local message passing algorithms to highlight their algorithmic similarities and to contrast their different convergence characteristics and computational requirements. Our simulation results suggest that typical posterior distributions in source separ. **R** have multiple local maxima. Therefore we propose a hybrid approach where we explore the state space with a Gibbs sampler and then switch to a deterministic algorithm. This approach seems to be able to combine the speed of the variational approach with the robustness of the Gibbs sampler. **D**

What has been done

What are the main findings

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Informative abstract



Signal Processing

Volume 87, Issue 10, October 2007, Pages 2455-2460

Special Section: Total Least Squares and Errors-in-Variables Modeling

Calculation of radix-2 discrete multiresolution Fourier transform

X. Wen^a, and M. Sandler^a

doi:10.1016/j.sigpro.2007.04.002

Abstract. This article discusses the efficient calculation of radix-2 multiresolution Fourier transfo. **I** (MST), which can also be regarded as a collection of short-time Fourier transforms (STFTs) with multiple 2-based window sizes, calculated on the same discrete-time signal. We show that by reconfiguring the (decim. **M**)-fast Fourier transform (DIF-FFT) framework to adopt different internal calculations, we are **R** to save nearly 50% of the calculation compared with a direct DIF-FFT method. Practical issues on real signals, sliding windows and cosine-family windows are also discussed. **D**



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Structured Abstract

Pleural fluid neopterin levels in tuberculous pleurisy

Gursel Cok^a, , , Zuhal Parildar^b, Gunes Basol^b, Ceyda Kabaroglu^b, Ulku Bayindir^a, Sara Habif^b and Oya Bayindir^b

Abstract

Objectives:

Neopterin is produced by stimulated macrophages under the influence of gamma interferon of lymphocyte origin. It is regarded as a biochemical marker of cell-mediated immune response. This study was designed to assess the diagnostic value of pleural fluid neopterin levels in tuberculous pleurisy in comparison with adenosine deaminase activity.

Design and methods:

Results: Pleural fluid adenosine deaminase (ADA) activity and neopterin levels were measured in 16 patients with tuberculous pleurisy (TP) and 19 patients with malignant pleurisy (MP). ADA activity was determined by a colorimetric method, whereas neopterin levels were determined by a reversed-phase liquid chromatography technique. All values were given as median (min – max).

The mean age was 45.43 ± 20.39 years in the TP group and 60.42 ± 11.02 years in the MP group ($p = 0.026$). The median pleural fluid ADA activity was 51.75 U/L (3.50 – 62.40 U/L) in the TP group and was 2.30 U/L (1 – 8.20 U/L) in the MP group. The difference was statistically significant ($p < 0.001$). The median pleural fluid neopterin levels were 13.15 nmol/L (1.86 – 59.50 nmol/L) and 2.44 nmol/L (0.92 – 27.60 nmol/L) in the TP group and the MP group, respectively ($p = 0.021$). In order to evaluate the diagnostic value of pleural fluid neopterin concentrations, receiver-operating-characteristic curve analysis was performed.

Conclusion:

Pleural fluid neopterin concentration is significantly higher in TP when compared to MP, however when compared, its clinical use as a diagnostic marker is not valuable as ADA.

The abstract is the advertisement of your article. A clear abstract will strongly influence the editor's decision on whether your work will be further considered.

- Precise and honest
- Stand-alone
- No uncommon technical jargons, or citations.
- Brief and specific



An abstract should precisely reflects the content of a paper.

- Abstracts: A soluble, poly (ethylene glycol) supported piperazine catalyst has been prepared. Its utility in Knoevenagel condensation has been demonstrated.

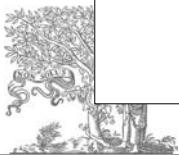
For what?
And how?

What was found?

Example

.....

.....



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An abstract cannot include anything not mentioned in the main text.

“Very occasionally one finds a statement such as ‘...the activation energy was determined to be 270 kcal/mole’ in the abstract, but there is no mention of the value in the text! The abstract should be a concise summary of the text, and should not contain any information that is not in the text.”

– Peter Thrower, Editor-in-chief, *Carbon*
Writing a Scientific Paper: I. Titles and Abstracts,
Carbon (2007), doi:10.1016/j.carbon.2007.07.009



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The abstract should be understood without reading the whole article.

“I recently asked an author the question, ‘What does this mean’ about a statement in his paper. He had used a word that does not exist in any dictionary that I have...How would non-native English speakers understand it? ... The author replied..., that if I only read the full paper I would discover what it meant, to which I replied that the point of my comment was that it should not be necessary to read the whole paper to discover what was meant in the abstract. This vital point is not understood by many authors.”

– Peter Thrower, Editor-in-chief, *Carbon*
Writing a Scientific Paper: I. Titles and Abstracts,
Carbon (2007), doi:10.1016/j.carbon.2007.07.009



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Normally no reference should be cited in abstract.

Example

Readers of the abstract may not be able to access the full article for the reference list. If a reference has to be cited in the abstract, it must be given in full, e.g., "A.D.Becke, J. Chem. Phys. 96, 2155 (1992)"

Sediment transport, hydrodynamic conditions (3-D) cohesive sediment tides, salinity, river discharge, including the significant wave height, period, and direction, are simulated with the SWAN model. The Grant-Madsen model is introduced for the bed shear stress, which includes the combined effect of waves and currents. The formulation of bed shear stress used to calculate the sink/source terms is modified based on previous research that sufficiently validates the formulation by many with measurement data. The model has been applied to simulate sediment transport in the Hangzhou Bay. The results of the simulation agree well with field observations concerning the distribution of suspended sediment, and indicating that the sediments are remarkably suspended in the Hangzhou Bay under the action of waves and currents.



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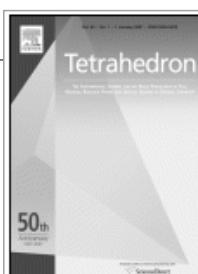
Do not cram the abstract with too many details, or uninformative descriptions.

Example

Abstract: Indiplon polymorph I was prepared according to previous reports and polymorph II was obtained in new ways. The polymorphs were characterized by single crystal X-ray diffraction (SCXRD), powder X-ray diffraction (PXRD), variable temperature X-ray diffraction (VT-PXRD), differential scanning calorimetry (DSC), thermogravimetry (TG), Fourier transform infrared (FT-IR), FT-Raman) microscopy and solubility determination. Solubility measurements distinguished between the two forms. No differences were detected by FT-IR and no differences were observed by DSC. This was explained by VT-PXRD which showed a solid-solid phase change from Form II to Form I occurring during the heating process and the failure of DSC to detect the phase change was due to its very small transition enthalpy. Besides, the DSC curve of Form II we gained indicated a melting endotherm at 194 °C other than 175 °C as revealed in the previous report. VT-PXRD further confirmed the endotherm at 194 °C. It was possible that the sample characterized by a main endothermic peak at 175 °C in previous reports was a novel polymorph that has not been identified. Solubility measurements at various temperatures showed that the two polymorphs were monotropic and Form I was the relatively thermodynamically stable crystal form.

Some journals require a graphical abstract provided for each manuscript on first submission.

- The graphical abstract is an a concise, pictorial form, which
 - is carefully designed to capture the attention of a wide readership;
 - is prepared for compilation of databases;
 - serves to illustrate the theme of the paper are desired;
 - may also be accompanied by appropriate text with strict word limitation, e.g., 30-50 words.
- Consult a recent issue of the journal for the examples of acceptable graphical abstract.



Tetrahedron

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The graphical abstract is more effective and direct than a text abstract. Make it eye-catching.

Tetrahedron

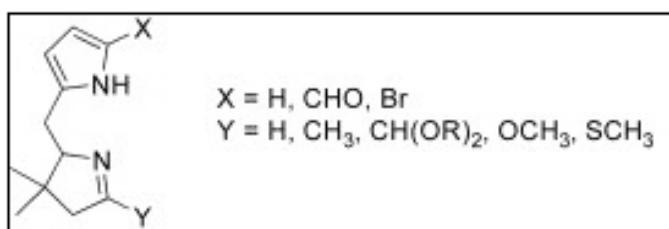
Volume 63, Issue 1, 1 January 2007, Pages 37-55

Synthesis of hydrodipyrins tailored for reactivity at the 1- and 9-positions

Han-Je Kim^a, Dilek Kiper Dogutan^a, Marcin Ptaszek^a and Jonathan S. Lindsey^{a,✉,✉}

doi:10.1016/j.tet.2006.10.027

Graphical abstract



Example

Thirty-three hydrodipyrins containing diverse functional groups at the α -positions have been synthesized for use in routes to hydroporphyrins.



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Example

Electrohydrodynamic atomization for biodegradable polymeric particle production

Jingwei Xie, Liang Kuang Lim, Yiyong Phua, Jinsong Hua and Chi-Hwa Wang,

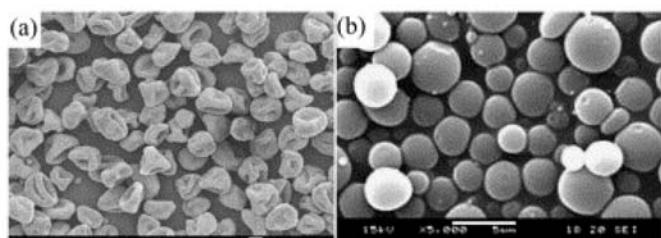
Journal of Colloid and Interface Science

Volume 302, Issue 1, 1 October 2006, Pages 103-112

doi:10.1016/j.jcis.2006.06.037

Graphical abstract

Controllable size and morphology of biodegradable polymeric particles were achieved by the electrohydrodynamic atomization technique. Cenosphere and spherical particles were obtained by controlling the solvent evaporation rate under different experimental setups.



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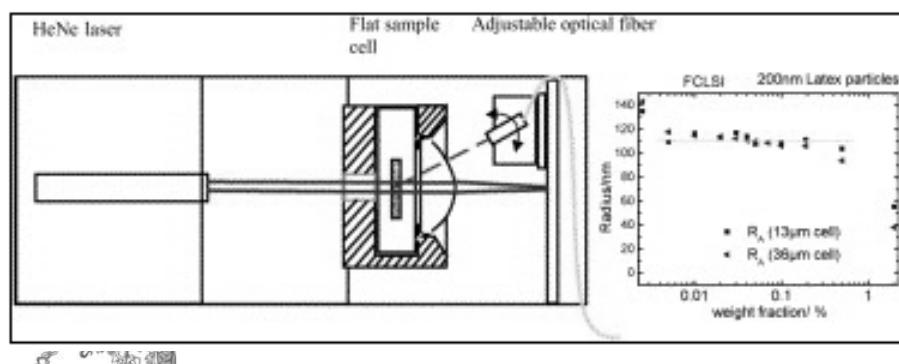
Dynamic light scattering in turbid colloidal dispersions: A comparison between the modified flat-cell light-scattering instrument and 3D dynamic light-scattering instrument

M. Medebach^a, C. Moitzi^a, N. Freiberger^a and O. Glatter^{b, a, *}

doi:10.1016/j.jcis.2006.09.013

Graphical abstract

To measure the dynamics of turbid systems is of great interest for fundamental research as well as industrial applications. We show the performance of a modified flat-cell light-scattering instrument.



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4. Keywords

– how your manuscript should be labeled or categorized

- Check the Guide for Authors! (Number, label, definition, thesaurus, range, and other special requests)
- Avoid words with a broad meaning.
“...Words selected should reflect the essential topics of the article... Do not select "soil". ”
– Guide for Authors, *Soil Biology & Biochemistry*
- Only abbreviations firmly established in the field are eligible.
e.g., DNA (life sciences), FFT (signal processing), SEM (material engineering), etc.



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5. Introduction

– what problem was studied and why your work is necessary

- Answer a series of questions:
 - What is the problem?
 - Are there any existing solutions?
 - Which is the best?
- Provide sufficient and background information that helps readers evaluate your work without referring to previous publications.
 - General background (review articles cited) → problems investigated particularly in this piece of research (briefly review the main publications on which your work is based.)
- Convince readers that you clearly know why your work is necessary.
 - Use words or phrases like “however”, “remain unclear”, etc., to address your opinions and work

A molecular beacon-based real time NASBA assay for detection of *Listeria monocytogenes* in food products: Role of target mRNA secondary structure on NASBA design

**Journal
of Microbiological
Methods**

www.elsevier.com/locate/jmicmeth

Example

Anna Nadal ^{a,1}, Anna Coll ^{a,1}, Nigel Cook ^b, Maria Pla ^{a,*}

Introduction. *Listeria monocytogenes* is a facultative anaerobic gram-positive bacterial species widely distributed. It is the etiological agent of listeriosis, a severe infectious disease. Listeriosis is associated with food products contaminated with *L. monocytogenes*... (Peccio et al., 2003 and Ryser, 1999).

The classical approach for detection of *L. monocytogenes* in food **involves**... (Farber and Peterkin, 1991)... **DNA-based techniques such as**... **have been developed for**... (Hough et al., 2002; Kee and Laike, 2002; Liming et al., 2004; Nogva et al., 2000 and Rodríguez-Lázaro et al., 2004c and 2004d; Rodríguez-Lázaro et al., 2004c and 2004d; Josephson et al., 1993). **Efforts have been made** to reduce... by... (Nogva et al., 2000)...

Although conventional NASBA... **What we have done and why**... 1997 and Uyttendaele et al., 1995), **no real-time NASBA (QNASBA) assay has been published to...** **We describe** a QNASBA assay for... and **its application** to... In addition, **we present our assay as an illustrative example of...**

"If you published something related to the new work or even something to be published, you should mention this in the introduction, which will help editors and reviewers to see your track record. "

– George F. Gao, Director, Institute of Microbiology, Chinese Academy of Sciences

"...Our recent studies of HR1 and HR2 regions in MuV fusion protein have shown that its HR1 and HR2 also form a stable six-helix bundle, suggesting a common core architecture similar to those of other viral fusion protein [20]. These methods have been successfully used in the biochemical and structural analysis of several other viral fusion protein core, including SARS-CoV [21] and [22], MHV [17], Newcastle disease virus [23] and [24], Nipah virus, and Hendra virus [25]. Here, we report the determination of crystal structure of MuV fusion core to 2.2 Å resolution by X-ray crystallography. The structure confirms..."

Biochemical and Biophysical Research Communications

Volume 348, Issue 3, 29 September 2006, Pages 916-922

Structural characterization of Mumps virus fusion protein core

Yueyong Liu^{a, 1}, Yanhui Xu^{b, 1}, Zhiyong Lou^{b, 1}, Jieqing Zhu^a, Xuebo Hu^a, George F. Gao^a,

Bingsheng Qiu^a, , , Zihe Rao^b, ,  and Po Tien^a, ,  doi:10.1016/j.bbrc.2006.07.168

Example

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Introduction is not a review article or a history lesson!

Example

"Rice (*Oryza sativa* L.) is one of the major crops in the world (Wang et al. 2004), contribution 43.7% of the total national grain production in China... [Followed are more than 200 words, describing the problem of water shortage in rice cropping area.]

Nitrogen (N) is one of the three essential macronutrients for plant growth... [Another nearly 300 words describe the generation of nitrites in the soil.]

Using model calculations and experiments... [The next 5 more paragraphs describe the detailed mechanism of how plants absorb N in the soil and its relationship with irrigation.]

Based on previous studies, we focus our investigation on... [Readers may well be exhausted if they ever read this far.]"



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...But give the whole picture before you present your new data.

"Wide band gap materials are attractive for optical devices. For example, GaN and SiC have been used for blue or shorter wavelength light emitting diodes. ZnO is a wide band gap material (3.37 eV). Compared with others, it has larger exciton binding energy (60 meV), which assure more efficient excitonic emission at higher temperature. The study on the emission properties of ZnO films is attractively increasing attention because of its promising optoelectric applications [4-9]. In this paper, Cu-doped ZnO films were prepared by RF sputtering technique. The structures and light emission properties of Cu-doped ZnO films have been investigated and discussed. "

Example

- The problem investigated is not addressed enough, especially the necessity or the work. Readers will skim your paper if they cannot find any attractive points in the introduction.

Citing relevant references is very important

Some recent papers have demonstrated abnormal expression of microRNAs in diverse cancers, suggesting that microRNAs might play a role in oncogenesis, and some of these seem to have the characteristics of stem cell microRNAs. Some researchers now consider that cancer stem cells might contribute to the development and transformation of human cancers. To determine whether or not the initiation and maintenance of cancer stem cells are regulated by microRNAs will require further studies. In this review, we summarize some indirect evidence to support the concept that microRNAs



Example

Corresponding references should be CITED here!!!

6. Methods

– how was the problem studied

- The structure, organization, and content of this section depends heavily on the type of paper. The basic principle is to provide sufficient information so that a knowledgeable reader can reproduce the experiment, or the derivation.
 - Empirical papers
 - material studied, area descriptions
 - methods, techniques, theories applied
 - Case study papers
 - application of existing methods, theory or tools
 - special settings in this piece of work
 - Methodology papers
 - materials and detailed procedure of a novel experimentation
 - scheme, flow, and performance analysis of a new algorithm
 - Theory papers
 - principles, concepts, and models
 - major framework and derivation



Empirical papers

- Provide operational definitions
- Describe the methods of data collection, unit of analysis and measurement
- Identify the subject of study
- Give the dates or time periods of data collection if important
- Identify the statistical methods if they are used : sample size, type of analyses, alpha level, statistical software used



Relationship between the lability of sediment-bound metals (Cd, Cu, Zn) and their bioaccumulation in benthic invertebrates

J.-C. Amiard ^{a,*}, A. Geffard ^{a,1}, C. Amiard-Triquet ^a, C. Crouzet ^b

2. Materials and methods

2.1. Sediment sampling

The sampling sites are shown in Fig. 1, ^{2.3. Metal partitioning among geochemical fractions} ~~many locations from the Seine estuary, Boulogne harbour~~ sample (500 mg) was dispersed

2.2. Desorption tests

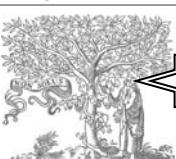
2.3. Metal partitioning among geochemical fractions

2.4. Metals in sediments

2.5. Metals in organisms

2.6. Statistical treatment

Organisms were collected at the same dates as sediments. The mussels (*Crassostrea gigas*) were collected concomitantly at the end of the sampling campaign.



Example

In the case of replicate analyses in sediments and pooled seeworms, standard errors were always $\leq 5\%$ of the mean and will not be shown in the figures because they have no interpretative value. At those sites which were sampled on one occasion, metal determinations were carried out on eight bivalves:

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Case study papers

- Cite corresponding references if necessary.
- Specify the value of the key parameters and the experimental settings for your case.



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Evolution of a Combinatorial Transcriptional Circuit: A Case Study in Yeasts

(Annie E. Tsong, Mathew G. Miller, Ryan M. Raisner and Alexander D. Johnson)

Experimental Procedures

Strain Construction. All strains were derived from CAI4 (Δ ura3::imm434/ Δ ura3::imm434) (Fonzi and Irwin, 1993)....The a1 and a2 genes were knocked out using strategies outlined (Wilson et al. (2000)).

Quantitative Mating Analysis. Quantitative mating analysis was previously described (Miller and Johnson, 2002).

Preparation of Cultures and cDNA for Microarray Experiments. For white and opaque cultures, 1 ml cultures were grown overnight at 23°C in SC+100 μ g/ml uridine + 55 μ g/ml adenine... cDNA was prepared as previously described (Bennett et al., 2003). Construction and analysis of *C. albicans* microarrays was also as previously described (Bennett et al., 2003)



Methodology papers

- Address the model and the theoretical frame work of the methodology. Cite corresponding references.
- List every experimental detail which is unpublished.
- Describe the tests designed to examine both the effectiveness and the performance of the new method. The main results should be presented and studied thoroughly in the section of results and discussion. (Sometimes this part could be combined into the section of results.)



A multi-scale segmentation/object relationship modelling methodology for landscape analysis

C. Burnett  and Thomas Blaschke

The method section
 is usually the
 heaviest part in
 methodology papers.

Article Outline

1. Introduction
2. Theoretical framework
 - 2.1. Theoretical components explaining landscape structure
 - 2.1.1. Landscape heterogeneity and patches
 - 2.1.2. Scale
 - 2.1.3. Scale and aggregation
 - 2.1.4. Hierarchy and quasi-equilibria
 - 2.2. Hierarchical patch dynamics
3. Methodological framework
 - 3.1. Critique of the pixel approach
 - 3.2. Partitioning an HPD-conceptualised reality
 - 3.3. GIS building
 - 3.4. Segmentation
 - 3.5. Object relationship model building
 - 3.6. Visualization
 - 3.7. Quality assessment
4. Example studies
 - 4.1. Ruissalo Island: from individual trees to habitat units
 - 4.2. Biosphere Reserve Rhön: bush encroachment monitoring
5. Discussion

Acknowledgements
 References



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A clear and brief algorithm scheme

On-line non-stationary ICA using mixture models

Ahmed, A.; Andrieu, C.; Doucet, A.; Rayner, P.J.W.

Proc. IEEE ICASSP. v5. 3148-3151, 2000

Monte Carlo filter

Sequential Importance Sampling Step

- For $i = 1, \dots, N$, sample $\tilde{\theta}_t^{(i)} \sim \pi(\theta_t | \theta_{0:t-1}^{(i)}, y_{1:t})$ and set $\tilde{\theta}_{0:t}^{(i)} = (\theta_{0:t-1}^{(i)}, \tilde{\theta}_t^{(i)})$.
- For $i = 1, \dots, N$, evaluate the importance weights up to a normalizing constant

$$w_t^{(i)} \propto \frac{p(y_t | \tilde{\theta}_{0:t}^{(i)}, y_{1:t-1}) p(\tilde{\theta}_t^{(i)} | \tilde{\theta}_{t-1}^{(i)})}{\pi(\tilde{\theta}_t^{(i)} | \tilde{\theta}_{0:t-1}^{(i)}, y_{1:t})}. \quad (10)$$

- For $i = 1, \dots, N$, normalize the importance weights

$$\tilde{w}_t^{(i)} = \frac{w_t^{(i)}}{\sum_{j=1}^N w_t^{(j)}}. \quad (11)$$

Selection Step

- Multiply / discard particles $\{\tilde{\theta}_{0:t}^{(i)} : i = 1, \dots, N\}$ w.r.t. high / low normalized importance weights to obtain N particles $\{\theta_{0:t}^{(i)} : i = 1, \dots, N\}$.

Do not present your coding segment as the flow or scheme of your algorithm.



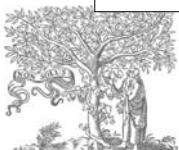
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Theory papers

- Define or construct the model.
- Provide the complete inference of the main theme of the article. Put the supportive details which are of secondary importance into appendix or supplementary materials. (e.g., the proof of whether some condition is fulfilled to implement a well established theorem)
- Indicate the corresponding simulations if appropriate. The main results should be presented and studied thoroughly in the section of results and discussion. (Sometimes this part could be combined into the section of results.)



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Digital Signal Processing 17 (2007) 891–913 doi:10.1016/j.dsp.2007.03.008
Variational and stochastic inference for Bayesian source separation

Digital
Signal
Processing

www.elsevier.com/locate/dsp

Example

A. Taylan Cemgil ^{a,*},1, Cédric Févotte ^b, Simon J. Godsill ^a

2. Model

The source separation model defines a
actual time series \hat{x}_t for $t = 1, \dots, T$

3. Inference

Major inference

The model described in the previous section is an
the mixing model parameters $\Theta_m = \{a_i, \lambda_{1:N}\} \equiv \{v, \lambda\}$. We will refer to all par

3.1. Markov chain Monte Carlo

Suppose we could generate I

$$\frac{1}{Z_x} \phi_x(s, \Theta) \equiv \frac{1}{Z_x} \phi_x(s, A, \lambda)$$

3.2. Gibbs sampling

A simpler approach is to sample the variables one by one or in sets. We group all variables in mutually exclusive sets \mathcal{C}_α , that we name a unique cluster index and $\mathcal{C} = \{\mathcal{C}_1, \dots, \mathcal{C}_\alpha, \dots, \mathcal{C}_A\}$ is the set of all clusters for grouping the variables. A natural choice for the source separation

Appendix A. Standard distributions in exponential form, their sufficient statistics and entropies

, ..., $v_{k,m}$

• Gamma

$$\mathcal{G}(\lambda; a, b) \equiv \exp \left(+ (a - 1) \lambda + b \right)$$
$$\langle \lambda \rangle_{\mathcal{G}} = ab, \quad \langle \log \lambda \rangle_{\mathcal{G}} = -b/a$$
$$H[\mathcal{G}] \equiv -\langle \log \mathcal{G} \rangle_{\mathcal{G}} = -\langle \log \lambda \rangle_{\mathcal{G}} - \langle \log b \rangle_{\mathcal{G}} + \langle \log a \rangle_{\mathcal{G}}$$

Appendix D. Definition of performance criteria for source separation

The below criteria are defined when all the true source signals and all noise are known and defined in detail by [40]. The reconstructed signal by a separation algorithm and all other sources are known one can compute a decomposition as

$$s_{\text{rec}} = s_{\text{target}} + e_{\text{noise}} + e_{\text{in}}$$

Secondary inference

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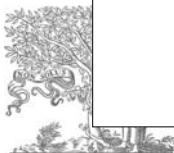
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7. Results

– what have you found?

- The following should be included in this part.
 - the main findings listed in association with the methods
 - the highlighted difference between your results and the previous publications (especially in case study papers)
 - Results of statistical analysis
 - Results of performance analysis (especially in the methodology, or algorithm papers)
 - A set of principle equations or theorems supporting the assumptions after a long chain of inferences (especially in the theory papers)



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Use numbered sub-headings to keep together results of the same type

Journal of Colloid and Interface Science

Volume 305, Issue 1, 1 January 2007, Pages 101-110
doi:10.1016/j.jcis.2006.09.069

Humidity-induced restructuring of the calcite surface and the effect of divalent heavy metals

Douglas B. Hausner^a, Richard J. Reeder^b and Daniel R. Strongin^a,  

Article Outline

1. Introduction
2. Experimental
3. Results

3.1. Atomic force microscopy

- 3.1.1. AFM of freshly cleaved calcite as a function of humidity
- 3.1.2. AFM force versus distance curves as a function of humidity
- 3.1.3. AFM of calcite pre-etched in de-ionized water and pre-equilibrated solution under varying humid environments
- 3.1.4. AFM of calcite individually pretreated with Cd(II) and Pb(II) prior to exposure to humidity

3.2. Ion scattering spectroscopy of Cd(II) and Pb(II) pretreated calcite surfaces

 Example

4. Discussion

- 4.1. The effect of humidity on the restructuring process
- 4.2. The effect of divalent metals on the restructuring process

5. Summary

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The results should be essential for discussion. Use supplementary material for data of secondary importance.

Journal of Colloid and Interface Science
Volume 314, Issue 1, 1 October 2007, Pages 230-235

doi:10.1016/j.jcis.2007.04.079 Lijuan Wang^a, Xuefeng Li^a, Gaoyong Zhang^a, Jinfeng Dong^a,   and Julian Eastoe^b

3. Results and discussion

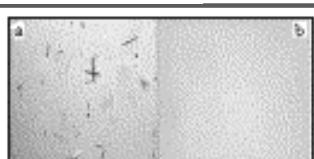
3.1. Equilibrium between oil and water in a β -CP decanoate

3.2. Effect of oil on the formation of nanoemulsions

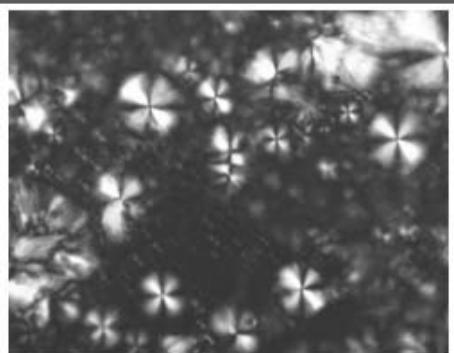
3.3. Effect of oil on the formation of nanoemulsions in a commercial β -CP microemulsion; (b)

3.4. Nanoemulsion formation at constant oil - water ratio

3.5. Stability of nanoemulsions



[Display Full Size version of this image \(26K\)](#)



a

Fig. 2 a the microscopy patterns taken in polarized optical microscopy

Example



(426 K)

mmc1.doc  Help

Microsoft Word file 1.

[Supplementary material.](#) ▶

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A figure is worth a thousand words...

- Illustrations, including figures and tables, are the most efficient way to present the results. Your data are the “driving force of the paper”. Therefore, your illustrations are critical!

“I do remember when you have an argument about the authorship, people usually would ask: why do not you count the figures to see who contributed what and how many figures?”

– George F. Gao, Director, Institute of microbiology,
Chinese Academy of Sciences



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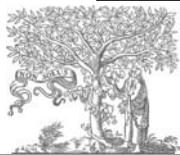
82

Make captions self-sufficient

- The caption of figures and tables should contain sufficient explanatory details to make the figure understood easily without referring to the text.

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

– Henry Rapoport, Associate Editor, *the Journal of Organic Chemistry*



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Cell

Volume 122, Issue 3, 12 August 2005, Pages 473-483

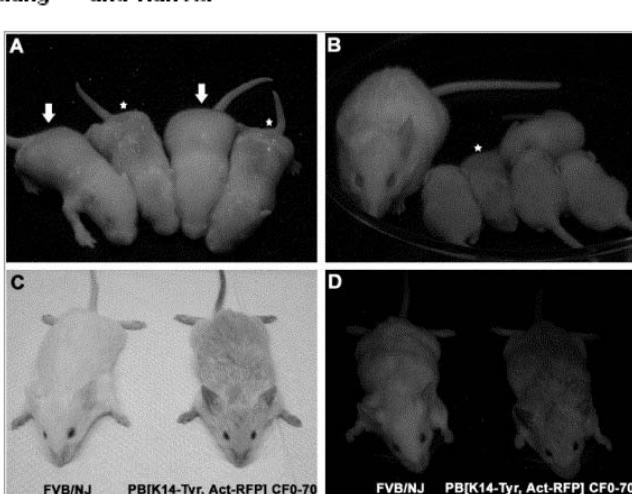
Efficient Transposition of the *piggyBac* (PB) Transposon in Mammalian Cells and Mice

Sheng Ding^{1, 5}, Xiaohui Wu^{1, 5}, , Gang Li¹, Min Han^{1, 2}, Yuan Zhuang^{1, 3} and Tian Xu^{1, 4}, ,

doi:10.1016/j.cell.2005.07.013

Figure 5. Expression of Transgenes in *piggyBac* Vectors

(A) PB[Act-RFP] expression in the progenies resulted in red fluorescence under the illumination of a portable long-wave UV light. Two positive mice (arrows) carrying the same single copy transposon (AF0-47T6) and two negative littermates (asterisks) are shown.



(B) PB[Act-RFP] expression in a founder mouse and her progeny. Red fluorescence was mosaic in the founder. Segregation of transposons in the progeny resulted in different intensities of RFP signal. The star marks the transgene-negative littermate.

(C and D) Coexpression of two transgenes in the same *piggyBac* vector. As a result of tyrosinase expression, a PB[K14-Tyr, Act-RFP] founder shows gray coat color under white light, while the transgene-negative littermate remains albino ([C], right and left, respectively). When illuminated by UV, red fluorescence was observed from this founder (D).

Example1

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WIN-55,212-2 and SR-141716A alter nicotine-**induced changes in locomotor activity, but do not****alter nicotine-evoked [³H]dopamine release** doi:10.1016/j.lfs.2006.09.020Kelli R. Rodvelt^a, Dana M. Bumgarner^a, William C. Putnam^b and Dennis K. Miller^{a, c, E, M}

Table 1.

WIN-55,212-2 and SR-141716A did not alter nicotine-evoked [³H]overflow from rat striatal slices preloaded with [³H]dopamine

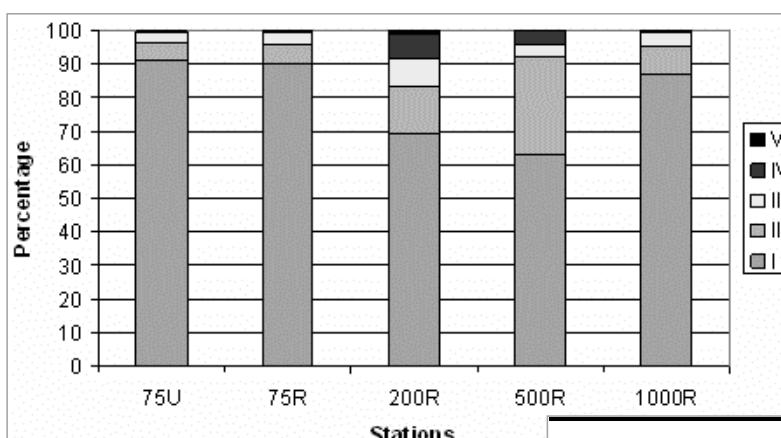
	Drug concentration						
	Control	100 pM	1 nM	10 nM	100 nM	1 μ M	10 μ M
WIN-55,212-2	1.91 (\pm 0.26)	2.34 (\pm 0.51)	2.34 (\pm 0.51)	2.42 (\pm 0.53)	2.18 (\pm 0.39)	2.80 (\pm 0.66)	4.63 (\pm 1.87)
SR-141716A	2.46 (\pm 0.44)	ND		4.13 (\pm 1.67)	3.18 (\pm 0.96)	1.55 (\pm 0.57)	2.09 (\pm 0.80)

Data represent mean (\pm S.E.M.) total [³H]overflow after the addition of nicotine (10 μ M) to superfusion buffer. Control values represent superfusion in the presence of nicotine and the absence of WIN-55,212-2 or SR-141716A (i.e., nicotine alone). The effect of the 100 pM concentration of SR-141716A on nicotine-evoked [³H]overflow was not determined (ND). (n = 6 – 10 rats).



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No illustrations should duplicate the information described elsewhere in the manuscript.



Generally, tables give the actual experimental results. In this case, the table is more direct and clear.

Example

Station	ECOLOGICAL GROUP				
	I	II	III	IV	V
75U	91.3	5.3	3.2	0.2	0.0
75R	89.8	6.1	3.6	0.5	0.0
200R	69.3	14.2	8.6	6.8	1.1
500R	63.0	29.5	3.4	4.2	0.0
1000R	86.7	8.5	4.5	0.2	0.0

The graph repeats what the table describes.



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Illustrations should be used only for essential data.

Table 2. Colour codes and notations of the soil layers

Habitat	Depth (cm)	Colour codes	Colour notation
Woodland	0-5	10YR4/2	Dark grayish brown
	5-10	2.5Y5/3	Light olive brown
	10-15	2.5Y6/3	Light yellowish brown
	15-20	2.5Y6/4	Light yellowish brown
	20-30	2.5Y6.5/3	Light yellowish brown -Light olive brown
	30-40	2.5Y5/3	Light olive brown
	40-50	2.5Y5/3	Light olive brown
	50-60	2.5Y6/3	Light yellowish brown
	60-70	2.5Y5/4	Light olive brown
	70-80	2.5Y6.5/3	Light yellowish brown -Light olive brown
	80-90	2.5Y6.5/3	Light yellowish brown -Light olive brown
	90-100	2.5Y5/3	Light olive brown
Wetland	0-5	2.5Y4/2	Dark grayish brown
	5-10	2.5Y5.5/2	Grayish brown -Dark grayish brown
	10-15	2.5Y5/2	Grayish brown
	15-20	2.5Y4/1.5	Dark gray -Dark grayish brown
	20-30	2.5Y4/2.5	Dark grayish brown -Olive brown
	30-40	2.5Y4/2.5	Dark grayish brown -Olive brown
	40-50	2.5Y4/2	Dark grayish brown
	50-60	2.5Y4/2	Dark grayish brown
	60-70	2.5Y4/2	Dark grayish brown
	70-80	2.5Y4/2	Dark grayish brown
	80-90	2.5Y4/2	Dark grayish brown
Grassland	0-5	2.5Y4/2	Dark grayish brown
	5-10	5Y5/2	Olive gray
	10-15	5Y6/2	Light olive gray
	15-20	5Y6/2	Light olive gray
	20-30	5Y6/2	Light olive gray
	30-40	5Y6.5/2	Light olive gray -Olive gray
	40-50	5Y6/2	Pale olive
	50-60	5Y6/2	Pale olive
	60-70	5Y6/2	Light olive gray -Pale olive
	70-80	5Y6/2	Light olive gray -Pale olive
	80-90	5Y6/2	Pale olive
	90-100	5Y6/2	Pale olive

Example1

This table is not necessary. It can all be said in the text: 'The surface soils were dark grayish brown, grading to light olive brown (woodland), light olive brown (wetland), and pale olive (grassland) at 100 cm.' There is little to no value in describing colour of soil at 10 cm intervals.

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Example2

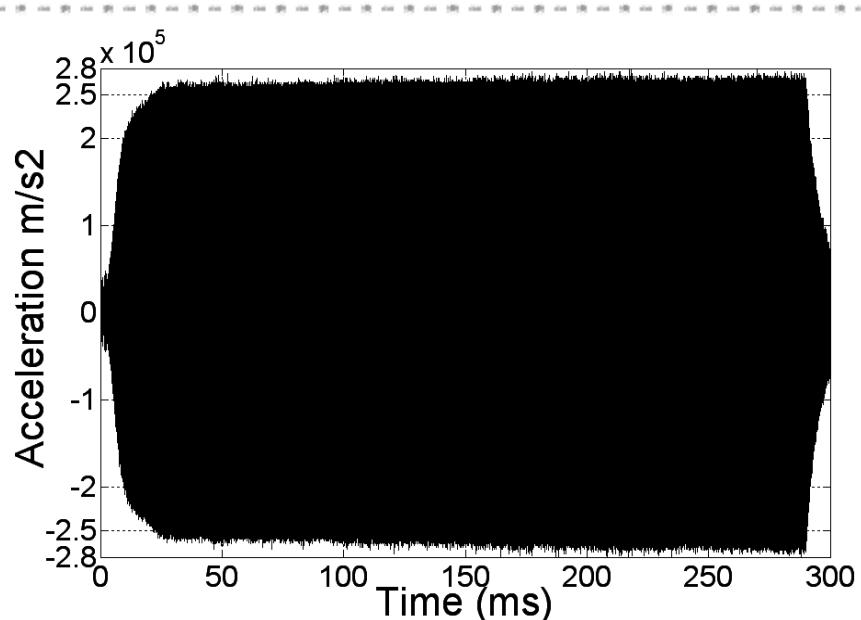


Fig. 4 Result of vibration acceleration at end of bonding tool

- The vibration characters could be easily described in the text. The figure is unnecessary, and meaningless with an inappropriate display range of x-axis.



Contents in illustrations should be meaningful

Table 3. Soil texture along the depth profile in KNP

Habitat	Depth	Clay (%)	Silt (%)	Sand (%)
Woodland	0-5	43.0	53.0	4.0
	5-10	61.0	29.0	10.0
	10-15	71.0	22.0	7.0
	15-20	71.0	22.0	7.0
	30-40	65.0	26.0	9.0
	50-60	66.0	25.0	9.0
	70-80	66.0	25.0	9.0
	90-100	62.0	29.0	9.0
Wetland	0-5	58.0	34.0	8.0
	5-10	58.0	31.0	11.0
	10-15	54.0	32.0	14.0
	15-20	45.0	35.0	20.0
	30-40	40.0	39.0	21.0
	50-60	47.0	34.0	19.0
	70-80	54.0	30.0	16.0
	90-100	54.0	33.0	13.0
Grassland	0-5	80.0	20.0	0.0
	5-10	67.0	31.0	2.0
	10-15	47.0	30.0	23.0
	15-20	57.0	28.0	15.0
	30-40	61.0	28.0	11.0
	50-60	76.0	23.0	1.0
	70-80	48.0	33.0	19.0
	90-100	58.0	31.0	11.0

- Why include '.0'?
It adds nothing.



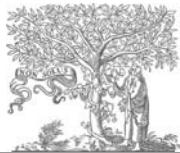
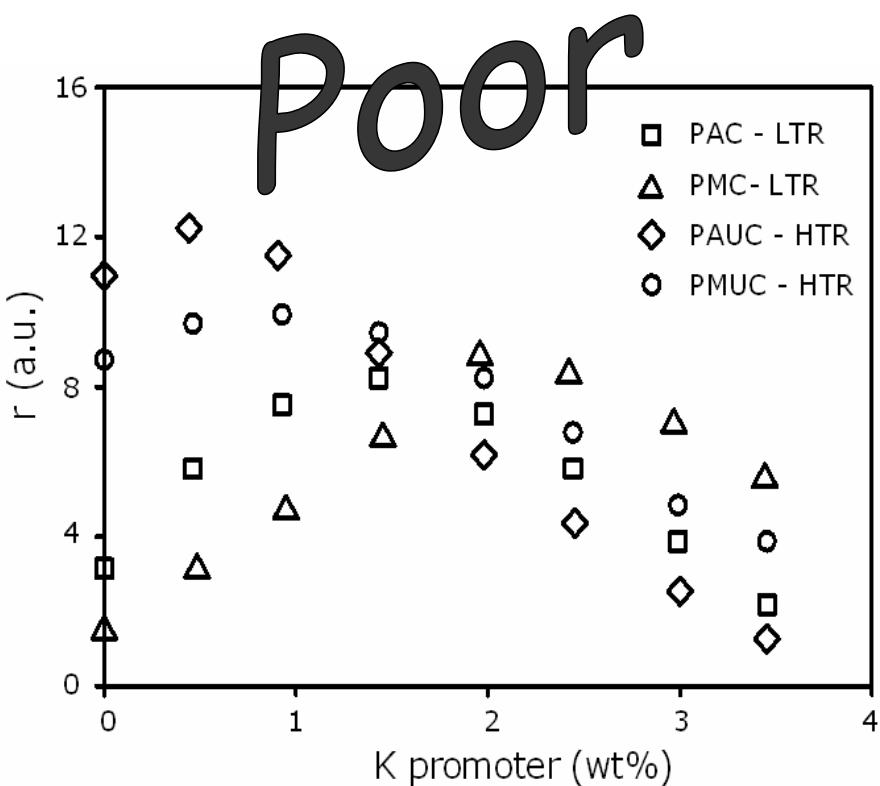
Appearances count!

- Plot 3 or 4 data sets per figure;
- Use subplot panels to assemble figures which illustrate the same type of problem.
- well-selected scales; appropriate axis label size; symbols clear to see and data sets easy to discriminate.



Revision of a figure

Example

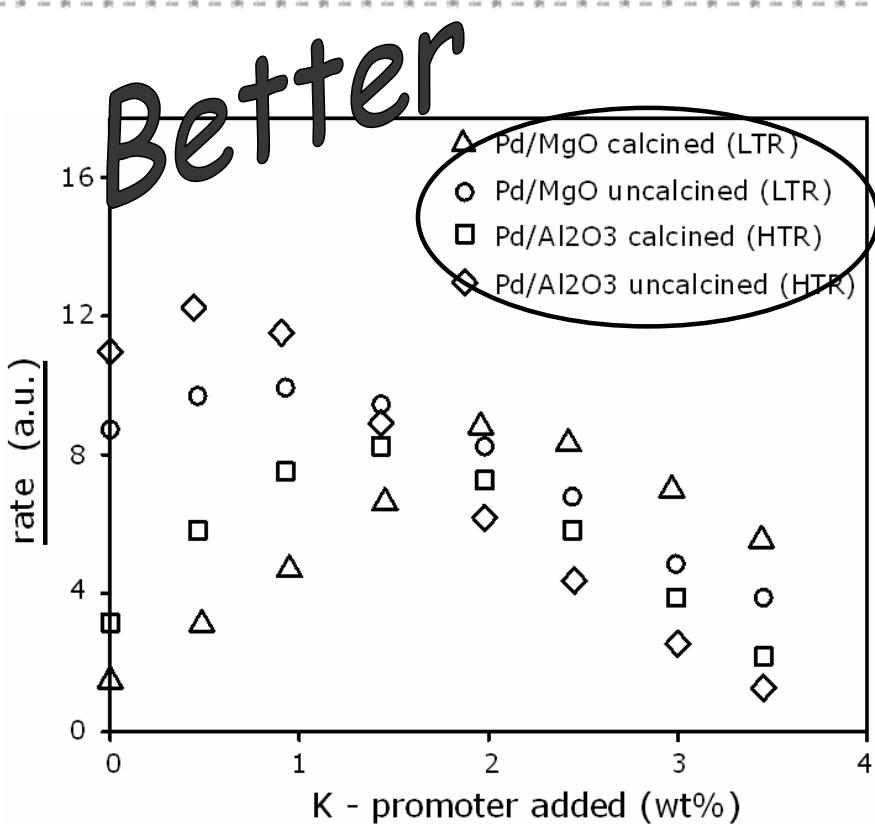


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Example c

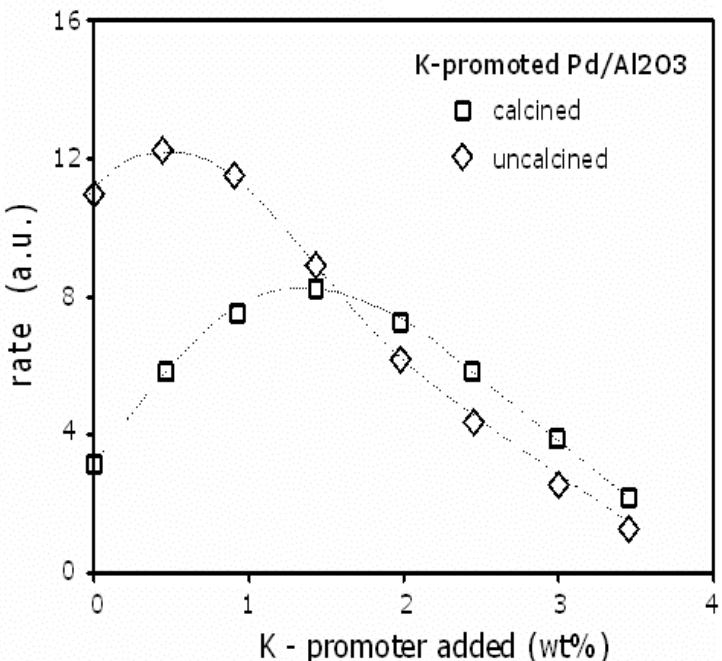
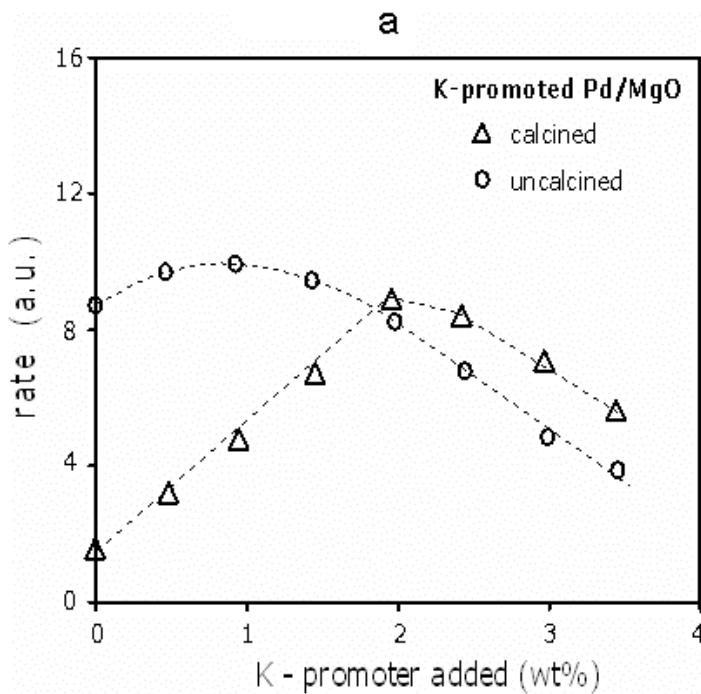


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Example c



Best



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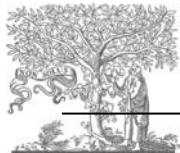
Revision of a table

Depth	Gravel	Sand	Mud
5 m	3,42%	81.41%	15,17%
50 m	2,5%	58.42%	39.08%
100 m	0,0%	32.5%	67.5%

Example



Water depth (m)	Gravel (%)	Sand (%)	Mud (%)
5	3.4	81.4	15.2
50	2.5	58.4	39.1
100	0	32.5	67.5



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Use color ONLY when necessary

Example 1

an unreadable figure with the unnecessary usage of color

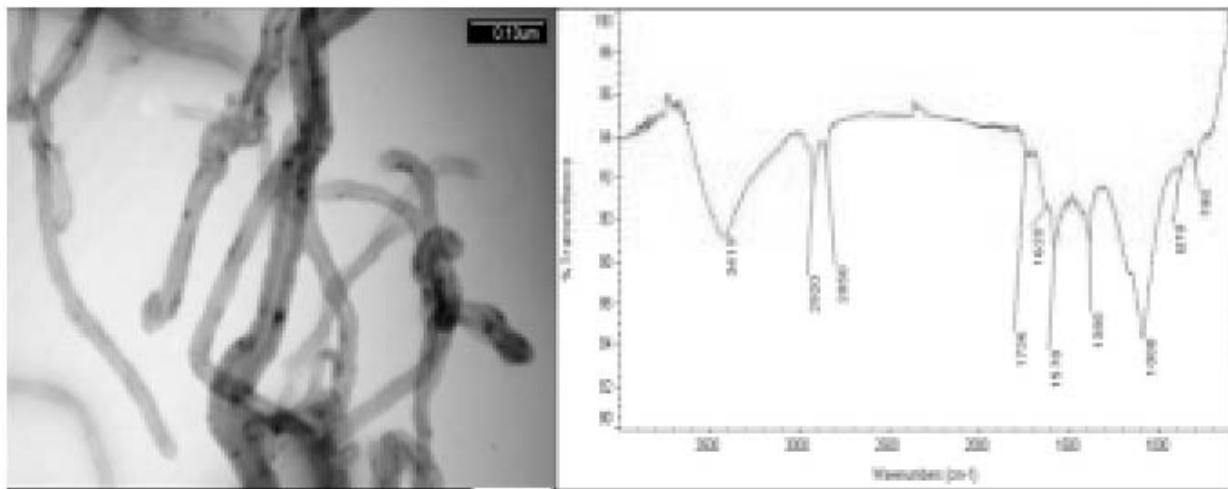


Fig.1 TEM image of purified MWNTs

Fig.2 FTIR spectra of purified MWNTs

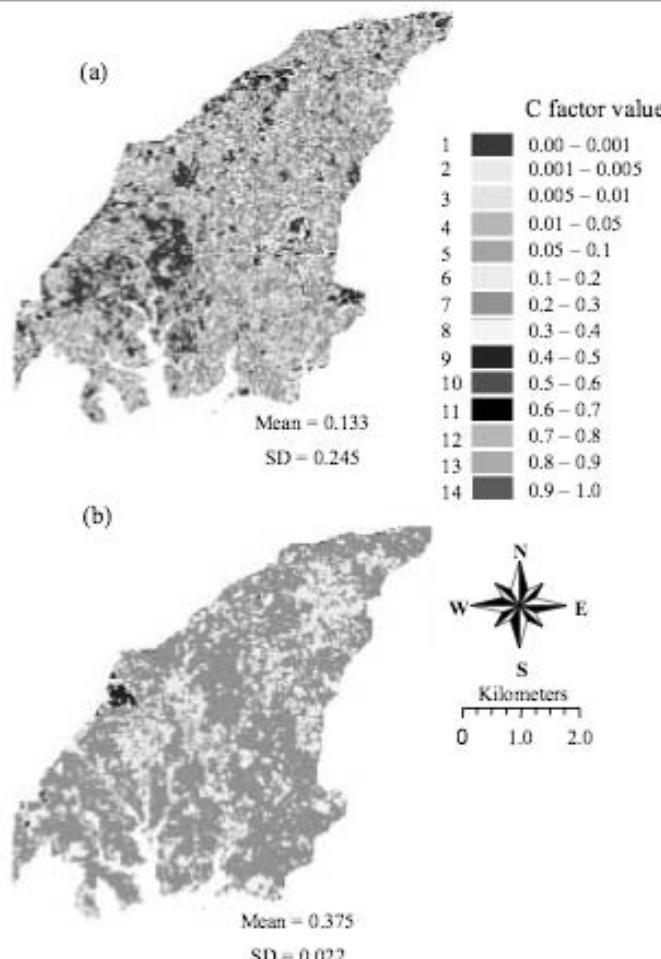


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Example 2



- Does this figure really tell us much? Can we distinguish sufficiently between the 14 colours?

Fig. 5. C factor map derived using (a) SMA and (b) NDVI method.

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Avoid long and boring tables

Example

Table 4. Habitat and year wise variation in C: N, C: P, C: S and N: P ratio

Habitat	Layer	C: N			C: P			C: S			N: P		
		2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
Woodland	Litter	28.38	16.46	25.39	809.99	1731.06	2315.63	403.62	765.99	1462.36	28.54	105.18	91.20
	0	10.16	6.69	13.48	1139.26	1302.12	4090.33	307.09	389.68	1491.93	112.18	194.57	303.44
	25	1.40	0.87	1.53	255.09	420.14	1225.21	38.77	43.76	704.22	182.63	481.32	799.08
	50	1.08	0.48	0.87	286.52	232.94	733.49	36.55	23.24	713.48	266.16	482.10	841.75
	75	1.00	0.68	0.43	267.29	308.34	375.61	28.06	28.96	289.27	268.11	454.71	874.70
	100	1.21	0.50	0.72	479.20	358.25	604.82	30.96	23.81	224.68	395.95	719.89	841.99
Wetland	Litter	32.19	19.65	22.35	2214.09	1874.23	2404.12	4012.44	1045.70	506.56	68.79	95.39	107.56
	0	14.69	8.47	6.59	3978.20	2211.44	2809.48	1198.66	633.07	911.40	270.87	261.22	426.49
	25	2.59	2.06	2.52	1220.43	615.67	1003.27	515.45	636.71	1417.22	471.49	299.57	398.49
	50	2.01	1.71	1.30	1148.13	784.35	1190.52	303.14	520.66	576.57	571.29	458.41	913.96
	75	1.96	1.67	1.15	1018.65	982.64	1848.85	234.20	360.32	420.19	518.87	586.89	1602.35
	100	1.73	1.76	0.89	794.97	966.28	1852.74	151.76	354.12	318.74	459.28	550.34	2073.58
Grassland	Litter	38.46	13.09	22.58	2911.64	1796.34	2679.57	18719.59	468.25	7396.69	75.70	137.26	118.69
	0	7.68	6.08	7.16	2024.65	1267.28	3652.67	1759.49	1328.00	1715.80	263.54	208.48	509.81
	25	3.01	1.05	1.44	1232.19	783.45	1506.97	516.96	472.00	668.80	409.07	745.17	1048.35
	50	1.14	0.78	1.31	726.96	694.30	1256.30	735.46	78.22	60.65	638.52	889.94	959.31
	75	1.07	0.72	0.88	628.09	797.55	1567.24	151.64	39.77	25.92	588.98	1106.52	1783.02
	100	0.90	0.77	0.72	508.90	381.24	717.78	46.61	20.13	14.31	564.63	498.31	996.65

- What a crowded table!
- Giving all of these ratios to two significant figures after the decimal point is simply not justified by the accuracy of measurement.

A few statistical rules for the Results section

- Which tests were used, with all the relevant parameters, should be noted.
E.g., Mean and standard deviation (SD) 44% (3)
Median and interpercentile range 7 years (4.5 to 9.5 years)
- Mean and standard deviation should be used for reporting normally distributed data. Median and interpercentile range should be used for skewed data.
- Numbers should be reported with the appropriate degree of precision. Reported (not analyzed) numbers should be rounded to two significant digits unless there is a valid reason for more precision.

A few statistical rules for the Results section

- When reporting percentages, the numerators and denominators should always be given.
E.g., 50% (500/1000)
- Percentages should not be used for very small samples.
E.g., “One of two” should not be replaced by 50%
- The actual *P* value should be reported (not simply *P* > 0.05)
- The word “significant” should be used to describe “statistically significant differences” only.



A few statistical rules for the Results section

Please consult

Thomas A. Lang, Michelle Secic.

How to Report Statistics in Medicine: Annotated Guidelines for Authors, Editors, and Reviewers.

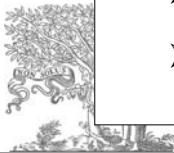
Philadelphia: ACP; 1997.



8. Discussion

– what do the results mean?

- Check for the following:
 - How do your results relate to the original question or objectives outlined in the Introduction section?
 - Can you reach your conclusion smoothly after your discussion?
 - 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?
- Do not
 - Make statements that go beyond what the results can support
 - Suddenly introduce new terms or ideas



Clearly state the relationship with previous publications.

Journal of Molecular Biology doi:10.1016/j.jmb.2005.08.078

Volume 354, Issue 3, 2 December 2005, Pages 601-613

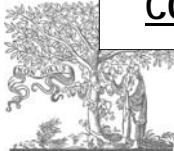
Design and Characterization of Viral Polypeptide Inhibitors

Targeting Newcastle Disease Virus Fusion

Jieqing Zhu^{a, b, †}, Xiuli Jiang^{c, †}, Yueyong Liu^{a, b, d}, Po Tien^{a, e, f, g} and George F. Gao^{a, e, f, g}

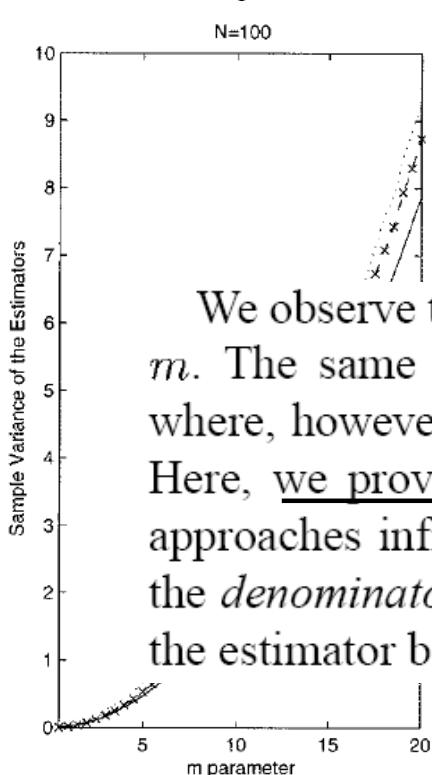
Example

... we showed that HR212 could inhibit NDV-mediated cell fusion... This was in contrast to the results of others[16], which... As a further characterization, we detected the inhibition of HR212 added... This result implied that the conformational changes of the F protein occurred very quickly after receptor binding to the HN protein... This may explain why the inhibition activity was much lower if added after cleavage activation. However, all these results are still consistent with the idea that HR2 peptides could interact ...



Speculations on possible interpretations are allowed. But these should be rooted in fact, rather than imagination.

Example



IEEE COMMUNICATIONS LETTERS, VOL. 5, NO. 3, MARCH 2001 Page 101-103

Maximum-Likelihood Based Estimation of the Nakagami m Parameter

Julian Cheng, *Student Member, IEEE*, and Norman C. Beaulieu, *Fellow, IEEE*

We observe that the variances of the estimators increase with m . The same observation can be made from figures in [4], where, however, no explanation for this behavior was offered. Here, we provide a simple explanation as follows. When m approaches infinity, the parameter Δ of (7), which appears in the *denominators* of (9) and (10), approaches zero. Therefore, the estimator becomes more sensitive to small changes in Δ .

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Watch out for the non-quantitative words!

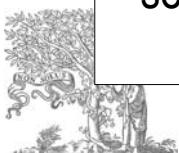
E.g., Low/high; Extremely; Enormous; Rapidly; Dramatic; Massive; Considerably; Exceedingly; Major, minor; ...

They are often qualified by very, quite, slightly, etc. Quantitative description is always preferred.

- But note subtleties

'the effect of adding N was minor' – not quantitative;

'the effect of adding P was to increase dry weight by 60% whereas the effect of adding N was minor' – 'minor' is given a sense of quantitative definition.



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- Ask your colleagues to read Results and Discussion before you go further! Check the organization, number and quality of illustrations, the logic and the justifications.
- Revision of Results and Discussion is not just paper work. You may do further experiments, derivations, or simulations. Sometimes you cannot clarify your idea in words because some critical items have not been studied substantially.



9. Conclusion

– How the work advances the field from the present state of knowledge

- A clear conclusion section helps reviewers to judge your work easily.
- Do
 - Present global and specific conclusions, in relation to the objectives.
 - Indicate uses, extensions, and limitations if appropriate.
 - Suggest future experiments and point out those that are underway.
- Do not
 - Summarize paper (abstract is for that purpose).
 - Make a list of trivial statements of your results.
 - Make judgments about impact.



In conclusion, our results obtained with mice increase the knowledge on CPF-induced adverse effects, up to now limited to rats. They seem to suggest that not all the CPF effects measured in rats and the related doses can be directly extrapolated to mice, which seem to be more susceptible at least to acute treatment. Even though many questions still remain open, our findings show that the mouse could be considered a suitable experimental model for future studies on the toxic action of organophosphorus pesticides focused on mechanisms, long term and age-related effects.



- Contribution to the particular area
- Practical significance, extensions
- Possible future work

Signal Processing

Volume 87, Issue 10, October 2007, Pages 2455-2460

Special Section: Total Least Squares and Errors-in-Variables Modeling

Calculation of radix-2 discrete multiresolution Fourier transformX. Wen^{a,✉,✉} and M. Sandler^a

doi:10.1016/j.sigpro.2007.04.002

“...we addressed the calculation issues of radix-2 MFT. We have shown that by making reuse of the internal results of DIF-FFT, we are able to save nearly half the computation. The main drawback of this method is the loss of flexibility in framing and windowing, i.e., we are restrained to use 1/integer frame offsets, and low-complexity window functions of the cosine window family, although this is rarely a problem in practise.”

- Scientific significance of the work
 - Limitation
 - Practical relevance



Avoid gratuitous statements in conclusion

“...There was a tendency for the soil seed bank to decrease in density with increasing elevation in both shady slope and sunny slope, a occurrence of different altitude band and vegetation. Why is it important to maintain the existing vegetation, and how are we going to apply the results of this study of seed banks to maintain it?

Picea crassifolia was in the soil seed bank despite being prominent component of the surface vegetation at woodlands, thus *Picea crassifolia* has no persistent seed bank. It will be important to maintain the existing vegetation in the future management.”

Example



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Another Example

“The limited distribution of this *L. chinensis* forest, and the ‘rare’ status of the species make these kinds of studies very important to the successful management and preservation of this endemic species of the Taibai Natural Reserve.”

Example

- How are these type of studies going to be used in land management and preservation? How are they going to be applied, and what will be the outcomes?



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Write positively!

“These results suggest that the trees might be under water stress to the extent that mortality might be possible”



- This statement is vague enough to mean nothing!



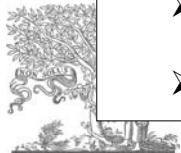
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10. Acknowledgments

- It is your chance to thank
 - People who have helped you, e.g., technical help, English revision
 - Funding organizations
 - Affiliation to projects and programs
 - Reviewers and editors (especially in the revised manuscript)
- Do
 - Ask permission from those who will be acknowledged with their names mentioned.
 - State clearly why they are acknowledged.
 - Include the grant number or reference.



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112

Direct asymmetric aldol reaction catalyzed by simple prolinamide phenolsYu-Qin Fu^a, Zai-Chun Li^a, Li-Na Ding^a, Jing-Chao Tao^{a, b, c}, Sheng-Hong Zhang^a and Ming-Sheng Tang^{a, b}

doi:10.1016/j.tetasy.2006.12.008

Acknowledgments

We are grateful for the financial support from the National Natural Science Foundation of China (grants 20372059). We also thank Jian-Xun Kang and Wei-Guo Zhu for the determination of NMR, Shao-Min Wang for HRMS and Jian-Ge Wang for the analysis of the single crystal structure.



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11. References

- There are two basic references systems.
 1. Vancouver system: references are numbered in the list according to the sequences they appeared in the main text.

- [1] V. Ponec, *Appl. Catal. A* 149 (1997) 27.
- [2] P. Gallezot, D. Richard, *Catal. Rev.* 40 (1998) 81.
- [3] P. Claus, *Appl. Catal. A* 291 (2005) 222.
- [4] D. Loffreda, F. Delbecq, F. Vigné, P. Sautet, *J. Am. Chem. Soc.* 128 (2006) 1316.
- [5] G.C. Bond, D.T. Thompson, *Catal. Rev.* 41 (1999) 19.
- [6] A. Corma, P. Serna, *Science* 313 (2006) 32.

Example

Look for the journal title abbreviations at
http://apps.isiknowledge.com/WoS/help/A_abrvjt.html,
or <http://www.library.ubc.ca/scieng/coden.html#U>.



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First
alphabetically

Then
chronologically

2. Harvard system: references are listed alphabetically according to the author name.

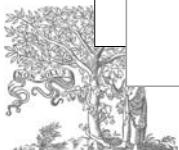
Kurdziel, A.S., Wilkinson, N., Gordon, S.H., Cook, N., 2001a. Development of methods to detect foodborne viruses. In: Clark, S.A., Thompson, K.C., Keevil, C.W., Smith, M.S. (Eds.), *Rapid Detection Assays for Food and Water*. Royal Society of Chemistry, Cambridge, pp. 175–177.

Kurdziel, A.S., Wilkinson, N., Langton, S., Cook, N., 2001b. Survival of poliovirus on soft fruit and salad vegetables. *J. Food Prot.* 64, 706–769.

Le Guyader, F., Dubois, E., Menard, D., Pommepuy, M., 1994. Detection of hepatitis A virus, rotavirus, and enterovirus in naturally contaminated shellfish and sediment by reverse transcription-seminested PCR. *Appl. Environ. Microbiol.* 60, 3665–3671.

Le Guyader, F., Mittelholzer, S., Haugarreau, C.L., Hedlund, K.-O., Asterlund, R., Pommepuy, M., Svensson, L., 2004. Detection of noroviruses in raspberries associated with a gastroenteritis outbreak. *Int. J. Food Microbiol.* 97, 179–186.

Example



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Get your references right!

- It is irritating for reviewers to find mistakes, particularly in one of their own references.
- Checking the format takes much time for the editors. Make their work easier and they will appreciate the effort.
- Please make everything conforms to the Guide for Authors of the journal, including the format of in-text citation, author names, article titles, journal names, page span, volume, and year. Read several sample articles to learn the right style.

http://elsevier.com/wps/find/journaldescription.cws_home/332/authorinstructions

References

Guide for Authors

Note: Authors are strongly encouraged to check the accuracy of each reference against its original source.

1. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked to ensure that the spelling of author's names and dates are exactly the same in the text as in the reference list.
2. In the text refer to the author's name (without initial) and year of publication, followed if necessary by a short reference to appropriate pages. Examples: "Since Peterson (1988) has shown that...". "This is in agreement with results obtained later (Kramer, 1989, pp. 12-16)".

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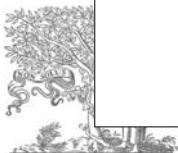
116

In-text citation: do not put all citations at the end of sentences

“Worldwide research on pegmatites has involved the study of their petrogenesis, classification, texture and structure, rare element geochemistry, mineralogy, and experimental petrology; (Solodov, 1962; Zou and Xu, 1975; Zou et al., 1986; Kuzminko, 1976; Makagon, 1977; Makagon and Shmakin, 1988; Luan, 1979; Wang, 1982; Shmakin, 1983; London, 1981, 1986, 1998; Cerny, 1982a, 1982b, 1991; Cerny et al., 1986; Cerny and Lenton, 1995; Roedder, 1984; Walker et al., 1986; Wang et al., 1987; Chu and Wang, 1987; Wang et al., 1987; Zhang et al., 1987; Zhao et al., 1993; Li et al., 1983; Li, 1987; Li et al., 1994, 1998, 1999a, 1999b, 2000; Bai, 1995; Zeng and Jin, 1995; Wu et al., 1995; Lu and Wang, 1997; Feng, 1998).

Example

36 references in one sentence!



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Give just 2-3 pertinent references in a proper context.

The new materials achieved by using conventional chemical methods include carbon, noble metals, transition metal oxides and sulphides. [4-8]

Example



The new materials achieved by using conventional chemical methods include carbon [4], noble metals [5, 6], transition metal oxides [7] and sulphides [8].



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In-text citation: “et al” can be used only when a reference bears more than two authors

“...For three or more authors you must use the surname name of the first author and add 'et al.' and for two authors you cannot use et al., but must mention both family names. For one author, you must mention the family name...

...This means that referring to ref. 13, with two authors, cannot be done with et al., but must be done by Hu and Ruckenstein. Similarly, referring to ref. 17 should be done as Zhdanov and Kasemov. Ref. 20 should be referred to as Latkin et al., always mention the FIRST author and then add et al.”

— Roel Prins, Editor, *Journal of Catalysis*



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Each reference needs to sufficient information so that the reader can find it easily.

- Avoid citing the following if possible:
 - personal communications, unpublished observations, manuscripts submitted but not yet accepted for publication
 - articles published only in the local language, which are difficult for international readers to find



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Avoid excessive self-citation and journal self-citation

Citation Overview Citations received since

Author:

Exclude from citation overview: self citations

It is easy to exclude
the self-citation from
your citation record.

Sort documents

Date Range

year descending

2005 to 2007

Update Overview

h index = 2 (2 out of 44 documents have each been cited at least 2 times) 

address

<http://crookedtimber.org/2005/10/12/dishonorable-citations/>

"ISI ... stopped listing that journal this year because 85 percent of the citations to the publication were coming from its own pages."

KED TIMBER
ITY, NO STRAIGHT THING WAS EVER MADE.

Logging event Main | Anonymous blog comment safe in



Chris Bertram 
Michael Bérubé 
Harry Brighouse 
Daniel Davies 

Dishonorable Citations

Posted by Henry

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"Secondary referencing": not the best practice

- Wherever possible, you should always try and read the original.
- If you have to give a secondary reference in your work, you must make it clear that you have not read the original. For example,

Jones (2004, p.22) endorses this controversial view, quoting Johnson's conclusion that the earlier records have been forged.

Example

- In your list of references at the end of your work, you cannot include a reference to the original work (in this example, by Johnson) as you have not read it. Your reference would therefore be:

Jones, P.R. (2004) Golden legends: Christian hagiographies in early medieval Europe. London: Farrar.

– Academic conventions and bibliographic referencing.

Newman higher education in Birmingham.

<http://www.newman.ac.uk/Library/referencing.htm#intextcitation>

12. Supplementary Material

"In particular, figures, tables, passages describing theory, or experimental details, which are only of secondary importance to the main scientific thrust of an article, can now be moved to supporting material. This has begun to open up new possibilities: papers that have in the past been considered as "long" and "heavy going" can be transformed into succinct information-rich articles, which are more interesting to read."

– Guide for Authors, *Journal of Colloid and Interface Science*

- Supporting material will be available online to readers if the paper is eventually published. The supporting materials section should be referred to in the main manuscript to direct reader, as appropriate.
- All the information should be related and supportive to your article.



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Medical Image Analysis

Volume 9, Issue 3, June 2005, Pages 209-221

Flux driven automatic centerline extraction

Sylvain Bouix^{a, b, , }, Kaleem Siddiqi^{c, } and Allen Tannenbaum^{d, }

doi:10.1016/j.media.2004.06.026



The main text

Display Full Size version of th

Fig. 6. (a) A segmented colon. (b) Its medial surface. (c) The centerline path. (d) The smoothed path shown as a movie. The entire movie can be viewed at <http://www.cim.mcgill.ca/~sbouix/research/> article, at doi:10.1016/j.media.2004.06.026.

Example

Appendix A. Supplementary material

Video ▶ 1. Artery image.



(6287 K)

Video_1.mpg 

MPEG movie 1.

Video ▶ 2. Colon image.



(7472 K)

Video_2.mpg 

MPEG movie 2.

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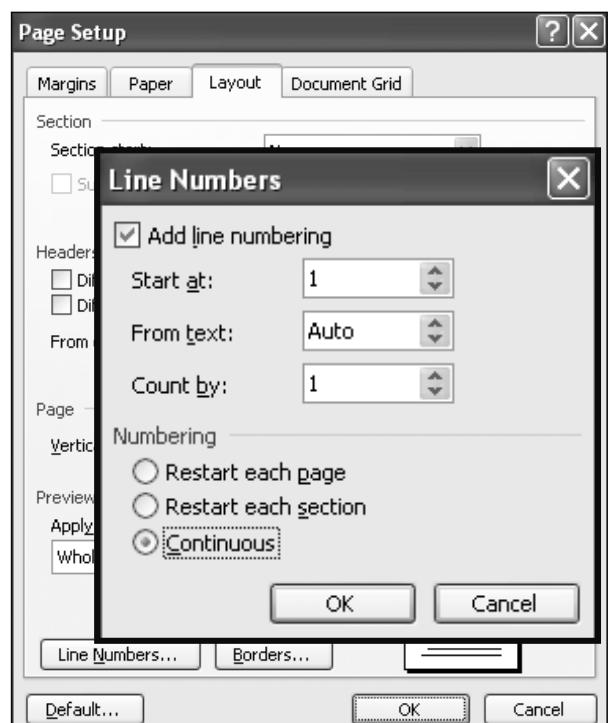
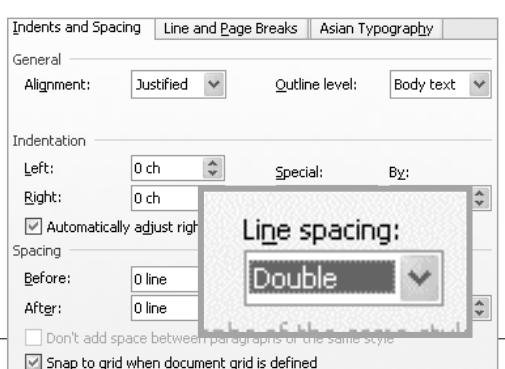
124

- How to write a good manuscript for an international journal
 - Preparations before starting
 - Construction of an article
 - Technical details



1. Suggested text layout

- Keep it consistent throughout the manuscript.
- Double line spacing and 12 font is preferred: make it convenient for reviewers to make annotations.
- Number the pages.
- Number the lines if the journal requires to do so.



2. Suggested length of a full article

- "...25- 30 pages is the ideal length for a submitted manuscript, including **ESSENTIAL** data only."
 - Julian Eastoe, Co-editor, *Journal of Colloid and Interface Science*
- Title page
- Abstract 1 paragraph
- Introduction 1.5-2 manuscript pages (double-spaced, 12pt)
- Methods 2-4 manuscript pages
- Results and Discussion 10-12 manuscript pages
- Conclusions 1-2 manuscript pages
- Figures 6-8
- Tables 1-3
- References 20-50 items
- Letters or short communications have a stricter limitation of the length. For example, 3000 words with no more than 5 illustrations.

3. Abbreviations

- Abbreviations should be defined on the first use in both abstract and the main text. Some journals even forbid the usage of abbreviations in the abstract.
- Abbreviations that are firmly established in the field do not need to be defined.

"There is no need to define the commonly used abbreviations such as SEM, TEM, etc."

 - Peter Thrower, Editor-in-chief, *Carbon*
- Never define an abbreviation which is never used later in the text.



Acronyms – abbreviations that consists of the initial letters of a series of words, pronounced in sequence.

- Do not overuse acronyms.

“You might have set up an experiment with a eucalypt forest (EF) and a pine forest (PF), on two aspects North (N) and south (S), in two localities, say Victoria (V) and Tasmania (T). You then have the following: VEFS, VEFN, TEFS, TEFN, VPFS, VPFN, TPFS and TPFN. This leads to sentences like

Example

‘The concentration of phosphorus in top-soil was greatest in VEFS, intermediate in VEFN, VPFN and TPFS, and least in the other forests.’

This might make sense to the author, but it is a nightmare for reviewers and readers. You should not expect your readers to remember acronyms.”

– Peter Attiwill, Editor-in-Chief, *Forest Ecology and Management*



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4. Cover Letter

- Basic information should be included as follows:
 - Editor name(s)
 - Originality of submission
 - No competing financial interests
 - Desired reviewers
 - Corresponding author

April XX, 2007

JOURNAL EDITOR NAME

Editor-in-Chief

NAME OF JOURNAL

Dear Dr. JOURNAL EDITOR NAME,

I am submitting the manuscript "Manuscript Title" by RESEARCHER NAME for consideration for publication in NAME OF JOURNAL. I confirm that the manuscript has not been published or under consideration for publication elsewhere. Further, this submission has been approved by the institution where the study was conducted. Correspondence concerning the manuscript should be to the author, RESEARCHER NAME. I look forward to learning your response to our submission.

Sincerely,

RESEARCHER NAME, Ph.D.

Email: xxxx@xxx.edu.cn

UNIVERSITY NAME, DEPARTMENT, AND ADDRESS

Example



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Cover letter is your chance to speak to the editor directly.

- Do not summarize your paper, or repeat the abstract, but mention what makes it special to the journal.
- “Indicate the editor about the track record of your research...Make it short and striking.”
 - Tell the editor your research area or your specialty (1 sentence)
“We have been working in [a certain field]...”
 - Mention your current research interest (1 sentence)
“We are now interested in / working on [some hot topic]...”
 - Present the significance of this piece of work (1-2 sentences)
“In this manuscript, we answered a critical issue of...”
 - Stress 1-3 main points (1-3 sentences)
 - Confine the length to 2/3 page

Example

– George F. Gao, Director, Institute of microbiology,
Chinese Academy of Sciences

5. Suggest potential reviewers (referees)

- Your suggestions will help the Editor to pass your manuscript to the review stage more efficiently. Generally you are requested to provide 3-6 potential reviewers.

“You can easily find potential reviewers and their contact details by mentioning authors 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.”

– Roel Prins, Editor, *Journal of Catalysis*



- Current status of Chinese articles
- Why do scientists publish?
- What is a good manuscript?
- How to write a good manuscript for an international journal
 - Preparations before starting
 - Construction of an article
 - Technical details
- **Revision, and response to reviewers**
- Ethical issues
- Conclusion: what gets you accepted?



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Why revision is important and necessary?

- Which procedure do you prefer?
 - Send out a sloppily prepared manuscript → get rejected after 4-6 months → send out again only a few days later → get rejected again... → sink into despair
 - Take 3-4 months to prepare the manuscript → get the first decision after 4 months → revise carefully within time limitation...accepted

磨刀不误砍柴工

Please cherish your own achievements!



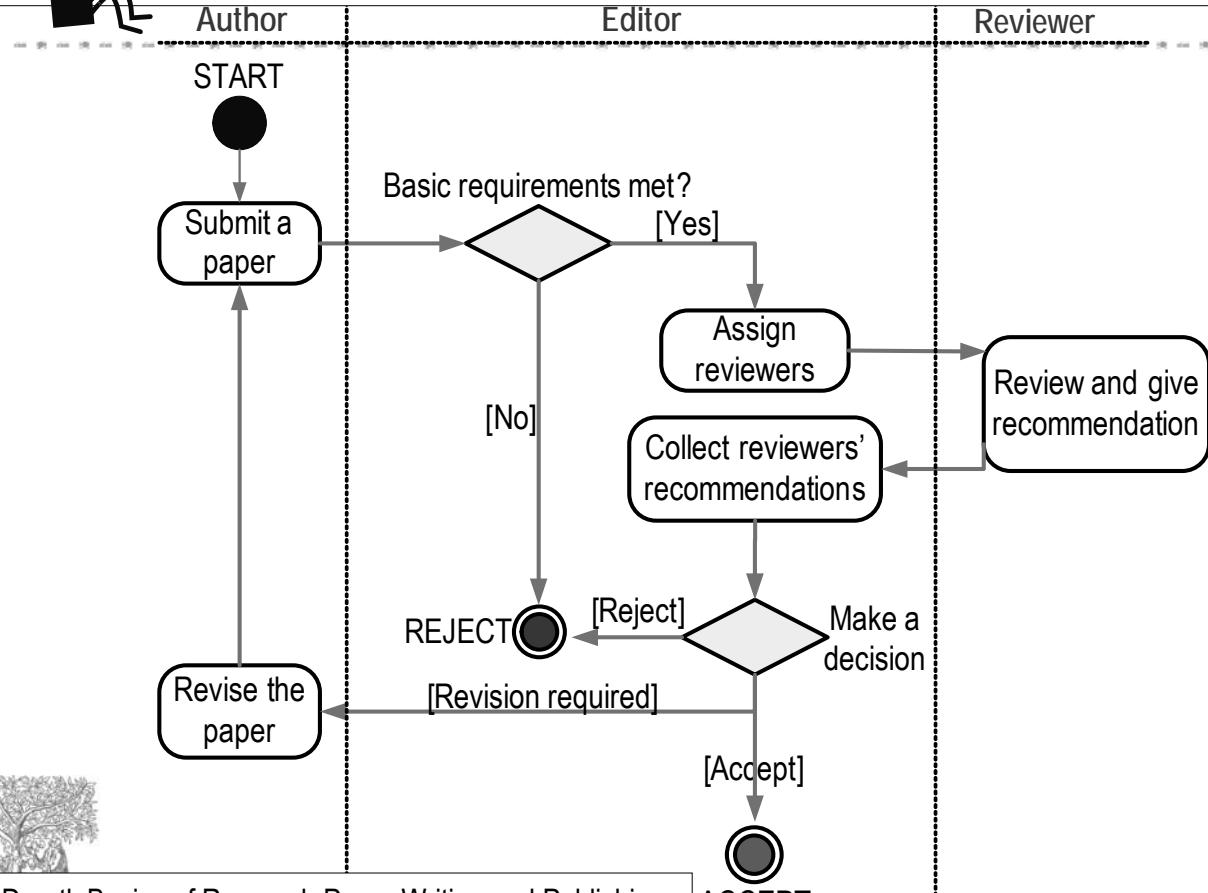
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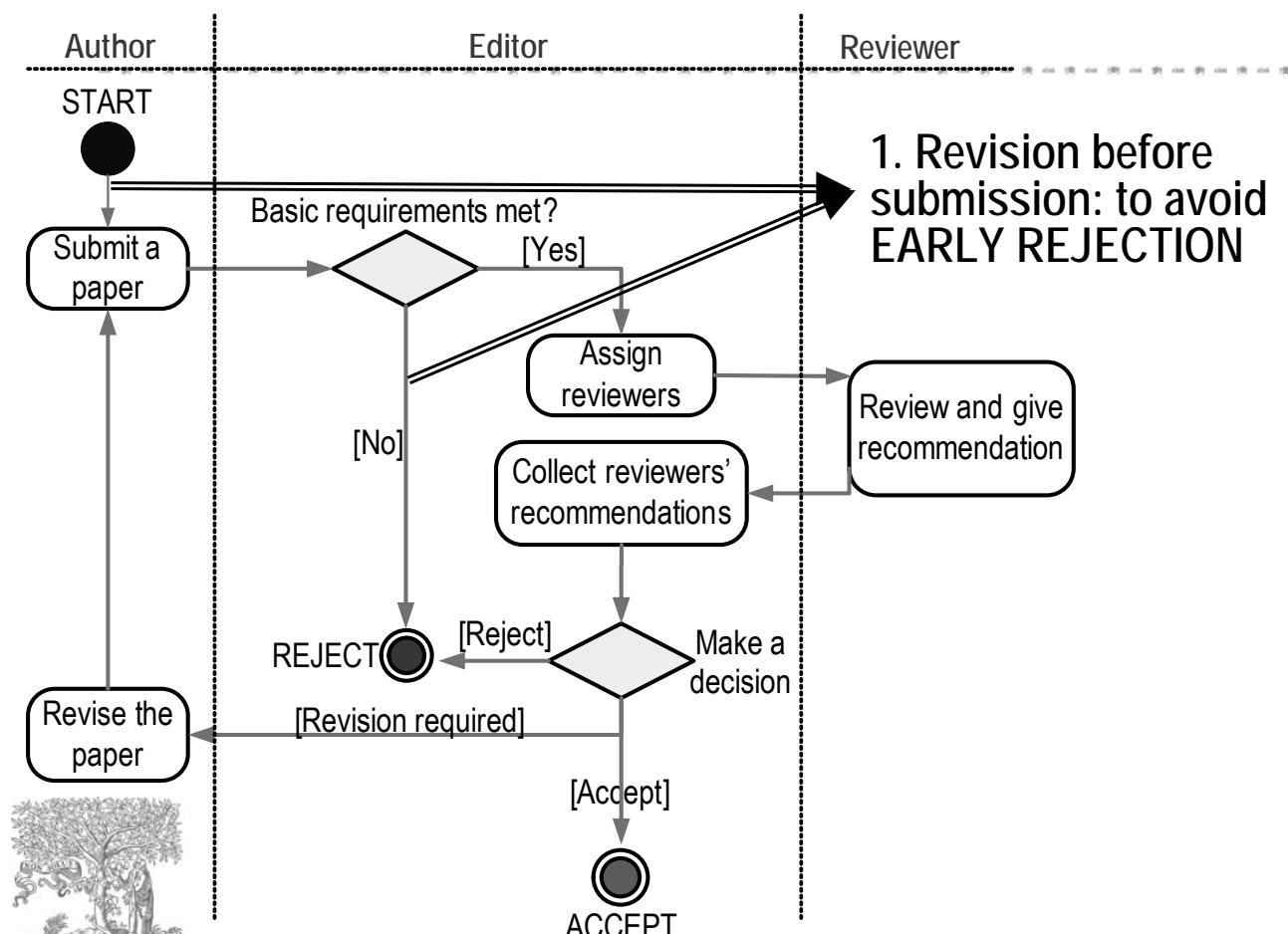


Who moved your manuscript?



Michael Derntl. Basics of Research Paper Writing and Publishing.
<http://www.pri.univie.ac.at/~derntl/papers/meth-se.pdf>

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**"Initial editorial review":
many journals reject manuscripts that are not well
prepared without sending them 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 clearly evident deficiencies.



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**Please make every attempt to make the manuscript
as good as possible.**

- No one get it right at the first time! Write, and re-write.
- Suggestions:
 - After writing a first version, take several days of rest. Refresh your brain with different things. Come back with critical eyes.
 - Ask your colleagues and supervisor to review your manuscript first. Ask them to be highly critical, and be open to their suggestions.



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Revision before submission – *checklist*

Reasons for early rejection: content (aims and scope)

- Paper is of limited interest or covers local issues only (sample type, geography, specific product, etc.).
- Paper is a routine application of well-known methods
- Paper presents an incremental advance or is limited in scope
- Novelty and significance are not immediately evident or sufficiently well-justified



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What should you check?

- Does your work have any interest for an international audience? Is it necessary to let the international readers know the results?
- Have you added any significant values to an exist method or explored remarkable extensions of its application?
- Did you provide a perspective consistent with the nature of journal? Are the right conclusions drawn from the results?
- Does your work add to the existing body of knowledge? – Just because it has not been done before is no justification for doing it now. And just because you have done the study does not mean that is very important!

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Revision before submission – *checklist*

Reasons for early rejection: Preparation

- Failure to meet submission requirements
- Incomplete coverage of literature
- Unacceptably poor English



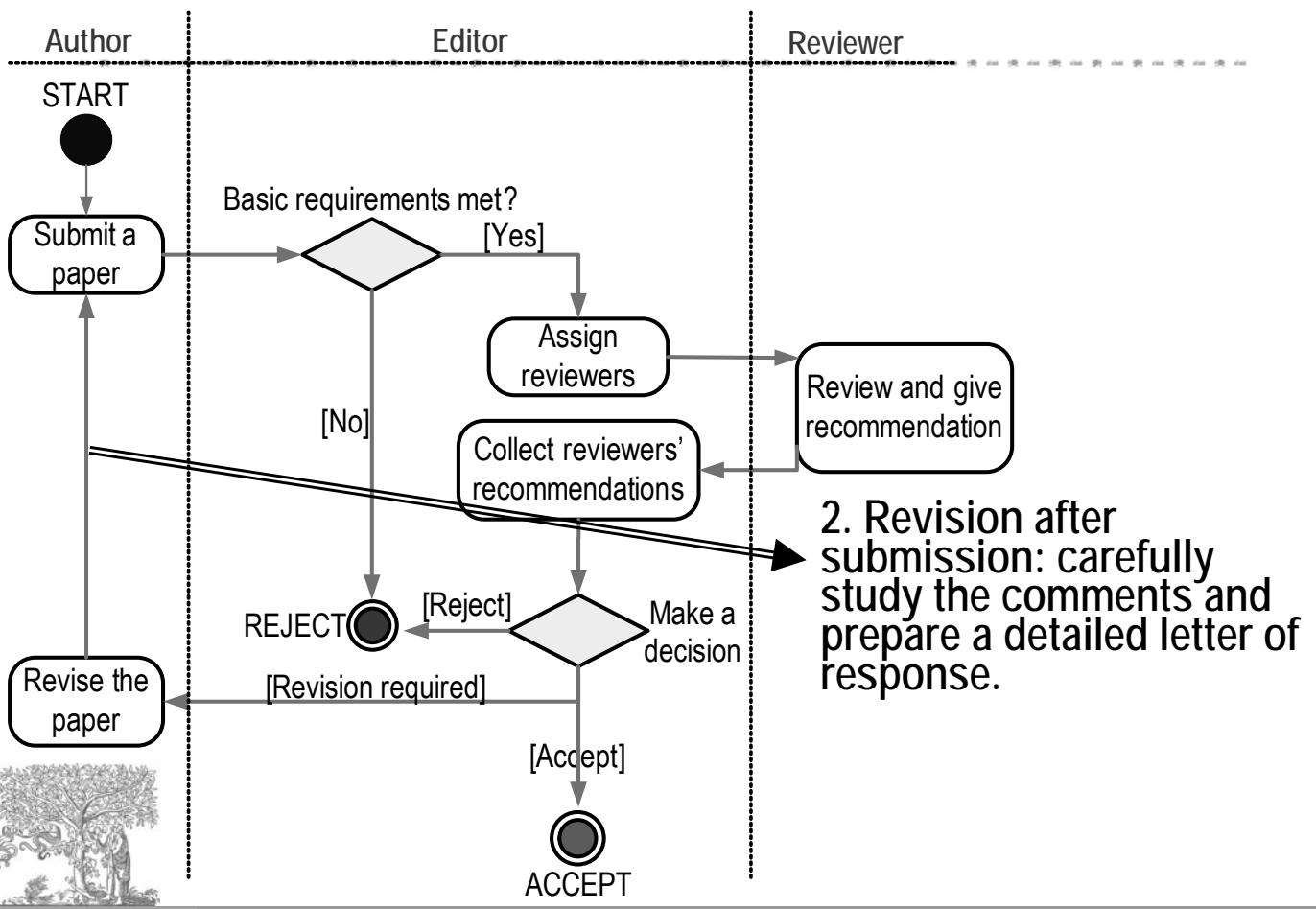
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What should you check?

- Read the Guide for Authors again! Check your manuscript point by point. Make sure every aspect of the manuscript is in accordance with the guidelines. (Word count, layout of the text and illustrations, format of the references and in-text citations, etc.)
- Are there too many self-citations, or references that are difficult for the international reader to access?
- Did the first readers of your manuscript easily grasp the essence? Correct all the grammatical and spelling mistakes.

140



Take revision very seriously.

- Nearly every article requires revision.
- Bear in mind that editors and reviewers mean to help you improve your article. Do not take offence.
- Minor revision does NOT guarantee acceptance after revision. Do not count on the acceptance before you carefully study the comments.
- Revise the whole manuscript – not just the parts the reviewers point out.

Revision: a great learning opportunity!

- A further review of the revised manuscript is common. Cherish the chance of discussing your work directly with other scientists in your community. Please prepare a detailed letter of response.
- Cut and paste each comment by the reviewer. Answer it directly below. Do not miss any point. State specifically what changes (if any) you have made to the manuscript. Identify the page and line number. *A typical problem – Discussion is provided but it is not clear what changes have been made.*
- Provide a scientific response to the comment you accept; or a convincing, solid and polite rebuttal to the point you think the reviewer is wrong.
- Write in a way that your responses can be given to the reviewer.



A sample response

Example

“

Reviewer's Comments: It would also be good to acknowledge that geographic routing as you describe it is not a complete routing solution for wireless networks, except for applications that address a region rather than a particular node. Routing between nodes requires further machinery, which detracts from the benefits of geographic routing, and which I don't believe you have made practical.

Author's reply: *We agree and will add an appropriate caveat. Note that for data-centric storage (name-based exact-match and range queries for sensed events), the storage and query processing mechanisms "natively" address packets geographically--without a "node-to-location" database.*

...

Reviewer's Comments: The footnotes are driving me crazy!

Author's reply: *We'll strive to remove some of them.*

...

– Dr. Ramesh Govindan, professor,

Computer Science Department, University of Southern California

http://enl.usc.edu/~ramesh/writings/files/NSDI_response.txt

A sample rebuttal

Example

“...In section (4) you complain that there is no discussion of the limitations in the scope of HR. For example merely to reflect outside reality does not contribute to the problem of conscious awareness of these objects. However this issue is not unique to HR, it is a general philosophical issue that applies just as well to the alternative Neuron Doctrine model. But the Neuron doctrine itself cannot even plausibly account for the reflection of outside reality in an internal representation, due to the problems of emergence, reification, and invariance, which is why the Neuron Doctrine suggests a more abstracted concept of visual representation, in which the visual experience is encoded in a far more abstracted and abbreviated form. Therefore although HR does not solve the "problem of consciousness" completely, it is one step closer to a solution than the alternative. The philosophical issue of consciousness however is beyond the scope of this paper, which is a theory of neural representation, rather than a philosophical paper. I enclose a copy of my book, 'The World In Your Head', which addresses these philosophical issues more extensively...”

– Dr. Steven Lehar, <http://sharp.bu.edu/~slehar/>

<http://sharp.bu.edu/~slehar/webstuff/hr/rebut.html>

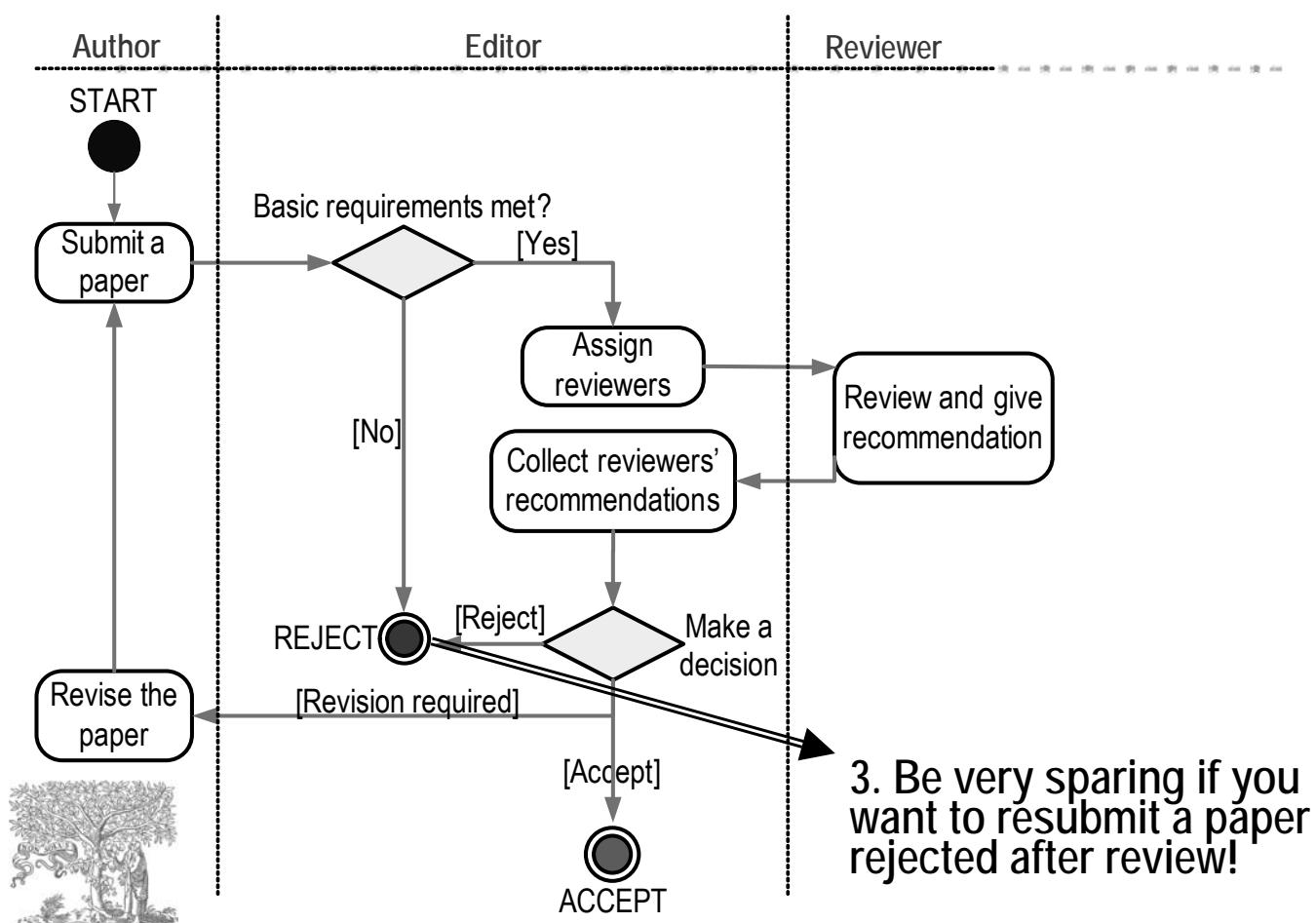
<http://sharp.bu.edu/~slehar/webstuff/hr/rebut-a.html>

<http://sharp.bu.edu/~slehar/webstuff/hr/rebut-b.html>

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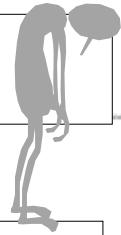


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Rejection: not the end of the world



- Everyone has papers rejected – do not take it personally.
- Try to understand why the paper was rejected.
- Note that you have received the benefit of the editors and reviewers' time; take their advice serious!
- Re-evaluate your work and decide whether it is appropriate to submit the paper elsewhere.
- If so, begin as if you are going to write a new article. Read the Guide for Authors of the new journal, again and again.



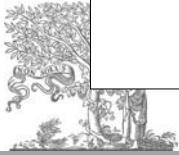
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Never treat publication as a lottery by resubmitting a rejected manuscript directly to another journal without any significant revision!!! It won't save any of your time and energy...

- The original reviewers (even editors) may eventually find it, which can lead to animosity towards the author.
- A suggested strategy
 - In your cover letter, declare that the paper was rejected and name the journal.
 - Include the referees' reports and a detailed letter of response, showing how each comment has been addressed.
 - Explain why you are resubmitting the paper to this journal, e.g., this journal is a more appropriate journal; the manuscript has been improved as a result of its previous review; etc.



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- Current status of Chinese articles
- Why do scientists publish?
- What is a good manuscript?
- How to write a good manuscript for an international journal
 - Preparations before starting
 - Construction of an article
 - Technical details
- Revision, and response to reviewers
- **Ethical issues**
- Conclusion: what gets you accepted?



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Publish AND Perish! – if you break ethical rules

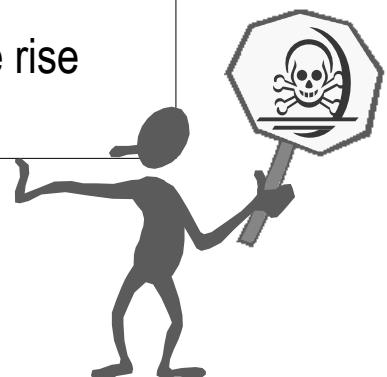
- International scientific ethics have evolved over centuries and are commonly held throughout the world.
- Scientific ethics are not considered to have national variants or characteristics – there is a single ethical standard for science.
- Ethics problems with scientific articles are on the rise globally.



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Deadly Sins – Unethical behavior “can earn rejection and even a ban from publishing in the journal”

– Terry M. Phillips, Editor, *Journal of Chromatography B*

- Multiple submissions
- Redundant publications
- Plagiarism
- Data fabrication and falsification
- Improper use of human subjects and animals in research
- Improper author contribution



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1. Multiple submissions (一稿多投): sending one of your papers to more than one journal at the same time

- Multiple submissions save your time but waste editors'.
- 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 did the same thing.”

– James C. Hower, Editor, *the International Journal of Coal Geology*

- Competing journals constantly exchange information on suspicious papers (even between competitors).
- You should not send your manuscripts to a second journal UNTIL you receive the final decision of the first journal.



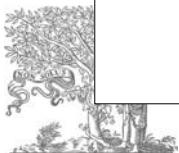
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2. Redundant Publication (重复发表): two or more papers, without full cross reference, share the same hypotheses, data, discussion points, or conclusions

- 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.



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Acceptable secondary publication

- “Certain types of articles, such as guidelines produced by governmental agencies and professional organizations, may need to reach the widest possible audience. In such instances, editors sometimes choose deliberately to publish material that is also being published in other journals, with the agreement of the authors and the editors of those other journals.”
 - Writing and Editing for Biomedical Publication, International Committee of Medical Journal Editors, *Uniform Requirements for Manuscripts submitted to Biomedical Journals*.

<http://www.icmje.org/index.html#ethic>



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Secondary publication: conditions

1. The authors have received approval from the editors of both journals; the editor concerned with secondary publication must have a photocopy, reprint, or manuscript of the primary version.
2. The priority of the primary publication is respected by a publication interval of at least one week (unless specifically negotiated otherwise by both editors).
3. The paper for secondary publication is intended for a different group of readers; an abbreviated version could be sufficient. (*to be continued*)



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Secondary publication: conditions (continued)

4. The secondary version faithfully reflects the data and interpretations of the primary version.
5. The footnote on the title page of the secondary version informs readers, peers, and documenting agencies that the paper has been published in whole or in part and states the primary reference. A suitable footnote might read: "This article is based on a study first reported in the [title of journal, with full reference]."
6. The title of the secondary publication should indicate that it is a secondary publication (complete republication, abridged republication, complete translation, or abridged translation) of a primary publication.



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3. Plagiarism (剽窃)

“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.” (the Federal Office of Science and Technology Policy, 1999).

- “Presenting the data or interpretations of others without crediting them, and thereby gaining for yourself the rewards earned by others, is theft, and it eliminates the motivation of working scientists to generate new data and interpretations.”
– Bruce Railsback, Professor, Department of Geology, University of Georgia
- For more information on plagiarism and self-plagiarism, please see <http://facpub.stjohns.edu/~roigm/plagiarism/>



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Plagiarism: tempting short-cut with 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, and will certainly cause rejection of your paper.
- Plagiarism will hurt your reputation in the scientific community.



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One of the most common forms of plagiarism is inappropriate, or inadequate paraphrasing.

- Paraphrasing is restating someone else's ideas while not copying verbatim.
- Unacceptable paraphrasing includes any of the following:
 - using phrases from the original source without enclosing them in quotation marks;
 - emulating sentence structure even when using different wording;
 - emulating paragraph organization even when using different wording or sentence structure.
- Unacceptable paraphrasing--even with correct citation--is considered plagiarism.



– *Statement on Plagiarism*. Department of Biology, Davidson College.
<http://www.bio.davidson.edu/dept/plagiarism.html>

Example1

- Original (Gratz, 1982):

Bilateral vagotomy resulted in an increase in tidal volume but a depression in respiratory frequency such that total ventilation did not change.
- Restatement 1.

Gratz (1982) showed that bilateral vagotomy resulted in an increase in tidal volume but a depression in respiratory frequency such that total ventilation did not change.

This sentence is identical to the original except that the author is attributed. It is a word-for word copying, without any changes and without quotation marks.



– Ronald K. Gratz. *Using Other's Words and Ideas*.
Department of Biological Sciences, Michigan Technological University
<https://www.geo.mtu.edu/~asmayer/un1001/UN1001%20Fac%20Handbk%202%20Using%20Other's%20Words%20&%20Ideas.pdf>

Example1

- **Original (Gratz, 1982):**

Bilateral vagotomy resulted in an increase in tidal volume but a depression in respiratory frequency such that total ventilation did not change.

- **Restatement 2:**



Gratz (1982) showed that bilateral vagotomy produced an increase in tidal volume and a depression in respiratory frequency so that total ventilation did not change.

Changing a few words does not alter the fact that this sentence, especially the sentence structure, is still substantially the same as the original.

– Ronald K. Gratz. *Using Other's Words and Ideas.*

Department of Biological Sciences, Michigan Technological University

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Example1

- **Original (Gratz, 1982):**

Bilateral vagotomy resulted in an increase in tidal volume but a depression in respiratory frequency such that total ventilation did not change.

- **Restatement 3:**



Gratz (1982) showed that following bilateral vagotomy the snakes' tidal volume increased but their respiratory frequency was lowered. As a result, their total ventilation was unchanged.

Although the same information is presented, the sentence structure and word order have been substantially altered.

– Ronald K. Gratz. *Using Other's Words and Ideas.*

Department of Biological Sciences, Michigan Technological University

<https://www.geo.mtu.edu/~asmayer/un1001/UN1001%20Fac%20Handbk%202%20Using%20Other's%20Words%20&%20Ideas.pdf>

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Example1

- Original (Gratz, 1982):

Bilateral vagotomy resulted in an increase in tidal volume but a depression in respiratory frequency such that total ventilation did not change.

- Restatement 4:



Gratz (1982) showed that following vagotomy the snakes' lung volume increased but their respiratory rate was lowered. As a result, their breathing was unchanged.

Dropping the adjective "bilateral" alters the sense of the experimental technique. "Lung volume" is not the same as "tidal volume" and "breathing" is not the same as "total ventilation". Paraphrase should not change the meaning of the source.

– Ronald K. Gratz. *Using Other's Words and Ideas*.

Department of Biological Sciences, Michigan Technological University

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Example2

- Original (Buchanan, 1996):

What makes intentionally killing a human being a moral wrong for which the killer is to be condemned is that the killer did this morally bad thing not inadvertently or even negligently, but with a conscious purpose -- with eyes open and a will directed toward that very object.

- Restatement 1:



Buchanan (1996) states that "what makes intentionally killing a human being a moral wrong for which the killer is to be condemned is that the killer did this morally bad thing not inadvertently or even negligently, but with a conscious purpose – with eyes open and a will directed toward that very object."

Although technically avoiding plagiarism, the fact that the quoted sentences makes up almost the entire paragraph and contains all of the important information means that this is not the writer's own work.

– Ronald K. Gratz. *Using Other's Words and Ideas*.

Department of Biological Sciences, Michigan Technological University

<https://www.geo.mtu.edu/~asmayer/un1001/UN1001%20Fac%20Handbk%202%20Using%20Other's%20Words%20&%20Ideas.pdf>

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- **Original (Buchanan, 1996):**

What makes intentionally killing a human being a moral wrong for which the killer is to be condemned is that the killer did this morally bad thing not inadvertently or even negligently, but with a conscious purpose -- with eyes open and a will directed toward that very object.

- **Restatement 2:**



Buchanan (1996) states that we condemn a person who intentionally kills a human being because he did a "morally bad thing" not through negligence or accident but with open eyes and a direct will to take that life.

It is an acceptable paraphrasing.

– Ronald K. Gratz. *Using Other's Words and Ideas.*

Department of Biological Sciences, Michigan Technological University

<https://www.geo.mtu.edu/~asmayer/un1001/UN1001%20Fac%20Handbk%202%20Using%20Other's%20Words%20&%20Ideas.pdf>

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What guarantee an acceptable paraphrasing?

- Make sure that you really understand what the original author means. Never copy and paste any words that you do not fully understand.
- Think about how the essential ideas of the source relate to your own work, until you can deliver the information to others without referring to the source.
- Compare your paraphrasing with the source, to see 1) whether you change the wording and the structure sufficiently; 2) whether the true meaning of the source is retained.



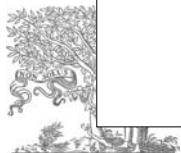
4. Data fabrication and falsification (数据造假)

- Fabrication is 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.”

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



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4. Data fabrication and falsification (数据造假)

- 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.
 - Select data to fit a preconceived hypothesis: “...an experiment (or data from an experiment) is not included because it ‘did not work’, or we show ‘representative’ images that do not reflect the total data set or, more egregiously, data that do not fit are simply shelved.”

– Richard Hawkes

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

– G.C.Lichtenberg (1742 - 1799)



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5. Improper use of human subjects and animals in research

- When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). If doubt exists whether the research was conducted in accordance with the Helsinki Declaration, the authors must explain the rationale for their approach, and demonstrate that the institutional review body explicitly approved the doubtful aspects of the study.
- When reporting experiments on animals, authors should be asked to indicate whether the institutional and national guide for the care and use of laboratory animals was followed. No manuscript will be considered unless this information is supplied.



6. 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.



Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.

- Each author should have sufficiently participated in the work to take public responsibilities for appropriate portions of the content.
- The corresponding author should ensure that all appropriate co-authors and no inappropriate co-authors are included on the paper. If there is plagiarism or other ethical problems, the corresponding author cannot hide behind or remain innocent.



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- Current status of Chinese publications
- Why do scientists publish?
- What is a good manuscript?
- How to write a good manuscript for an international journal
 - Preparations before starting
 - Construction of an article
 - Technical details
- Revision, and response to reviewers
- Ethical issues
- **Conclusion: what gets you accepted?**



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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



– Nigel John Cook, Editor-in-Chief, *Ore Geology Reviews*



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- Gregory Chow. Professor, Princeton University
- Nigel Cook. Editor-in-chief, Ore Geology Reviews.
- Jullian Eastoe. Co-editor, Journal of Colloid and Interface Science
- George F. Gao, Director, Institute of microbiology, Chinese Academy of Sciences
- Ronald K. Gratz. Director of pre-health professions studies, Department of Biological Sciences, Michigan Technological University
- Paul R. Haddad. Editor, Journal of Chromatography A
- Richard Hawkes. Professor, Department of Cell Biology and Anatomy, University of Calgary
- James C Hower. Editor, The International Journal of Coal Geology
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- <http://china.elsevier.com>
- china.support@elsevier.com

**Questions?
Thanks!**





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Appendix: language



Five rules from George Orwell

1. Never use a metaphor, simile or other figure of speech which you are used to seeing in print.
2. Never use a long word where a short one will do.
3. If it is possible to cut a word out, cut it out.

(This is a little similar to another rule in writing a scientific paper. If you are in doubt about including a theme, topic, result etc, omit it. 'If in doubt, leave it out.')

e.g., The deposits were characterized with the help of infrared spectroscopy and scanning electron microscopy.

4. Never use the passive where you can use the active: active voice is generally clearer and more direct
5. Never use a foreign phrase, a scientific word or a jargon word if you can think of an everyday English equivalent.



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KISS (Keep It Simple and Succinct)

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- Clarity
- Objectivity
- Accuracy
- Brevity



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Clarity

- To communicate effectively to the reader; to make writing persuasive; to show credibility and authority as a writer
- The first step towards being clear is to be brief.

"Everything should be made as simple as possible, but not simpler".

– Albert Einstein



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Clarity: avoid...

1. Long phrases that may be better said with one or two words:

- in view of the foregoing circumstances - therefore
- are found to be in agreement - agree
- has the capability of - can
- in an adequate manner – adequately

2. Tautology:

- consensus of opinion - consensus
- fewer in number - fewer
- exact duplicate - duplicate



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Common clarity problems

▪ Misplaced modifiers

The other day I shot an elephant in my pajamas. How he got in my pajamas I'll never know.

--Groucho Marx

Portia rushed to the store loaded with cash to buy a birthday gift.

Portia, loaded with cash, rushed to the stored to buy a birthday gift.

▪ Dangling modifiers

Having been thrown in the air, the dog caught the stick.

When the stick was thrown in the air, the dog caught it.

After mixing CO₂ and N₂, the initial test was carried out.

The authors carried out the initial test after mixing CO₂ and N₂.

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Objectivity

- Reflects the philosophy of the scientific method; to present an unbiased and honest tone; as a general rule, minimize your use of personal pronouns

“From our analysis, we found that activation led to cell death.”

“This analysis showed that activation led to cell death.”



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Accuracy

- Avoid to mislead the reader with inaccurate or incomplete results or misleading interpretations of the data.
- Avoid the use of casual or imprecise language, as this can make a paper less objective, and less accurate:
 - nowadays - presently, currently
 - despite the fact that - although
 - goes under the name of - is called
 - on the contrary - in contrast
 - (up) until now - to date
 - be that as it may - however



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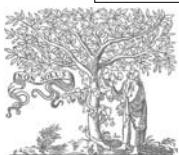
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Brevity

- Write briefly and to the point. Say what you mean clearly and avoid embellishment with unnecessary words or phrases.
- Use of the active voice alone shortens sentence length considerably.

“... brevity is the soul of wit, and tediousness the limbs and outward flourishes...”

--William Shakespeare



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Brevity: *Use shorter phrases or words*

▪ Prior to	→ Before
▪ Upon	→ On
▪ Utilise	→ Use
▪ Utilisation	→ Use
▪ In spite of	→ Despite
▪ Irregardless	→ Regardless



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Brevity: Avoid nominalization

“The comparison between X and Y was performed.”

“We compared X and Y.”

“X is the dominant factor of Y no matter what kind of treatment was performed.”

“X is the main factor of Y despite the treatments.”

“Hydrogen adsorption measurement at the atmospheric pressure was carried out...in the laboratory.”

“We measured hydrogen adsorption at the atmospheric pressure...in the laboratory.”



Brevity: Keep sentences clear and concise

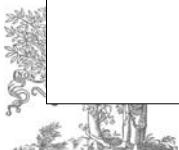
- Keep sentences clear and concise
- “...linearly with the increment of the concentrations...”
 - “...linearly with increasing concentrations...”
- “To cope with the situations with time- and space-dependent...”
 - “To manage situations with time- and space-dependent...”



long sentences

Direct and short sentences are preferred!

- Long sentences will not make the writing more professional. They only confuse readers.
 - Nowadays, the average length of sentences in scientific writing is about 12-17 words.
 - It is said that we read one sentence in one breath. Long sentences choke readers.
 - The Chinese language can express more complicated meaning with fewer words than English. You have to change your style when writing in English. One idea or piece of information per sentence is sufficient. Avoid multiple statements in one sentence.



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long sentences

- See the 80-word long sentence below. Even the editor found it incomprehensible.



The luminous efficiency of MOLED device drawn down faster than PLED, which may be caused by different fabrication process, i.e., the distribution of (tpbi)₂Ir(acac) dye in host is more uniform in liquid polymer from spin coating method than thermal deposition of solid organic small molecules, so that the quenching phenomena in small molecular device are more critical than in polymer device, even the doping concentration of phosphor dye in MOLED (2 wt%) is lower than that in PLED (4 wt%).



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long sentences

- Another awful example (with 91 words):

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.



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long sentences

Problems with long sentences:

- Inappropriate use of passive voice or dummy clauses (e.g., "It has been found that there had been many ...") makes sentences complex.
- Bad structure of sentences with wrongly used conjunctive words or dangling modifiers. (e.g., "because..., so...", "Although..., but...", "considering..., it is...")
- Excessive use of subordinate clauses in one sentence. (e.g., "It has already been found that when...there would be ... which...while...")
- Mixing different levels of parallelisms connected by "and" in one sentence. (e.g., "...investigates the *constructions* of triangular norms and discusses the *rotation construction* and the *rotation-annihilation construction* based on weak negations ")



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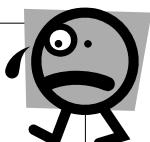
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long sentences

Example 1: 'Another problem related to the effects of environmental factors on the survival and growth of ECM strains in the Mongolian pine plantations is the distribution of tree root systems, because the distribution of ECM is corresponded with the roots directly, especially the fine roots. Therefore, we observed the root distribution of Mongolian pine in the present study. Results indicated that about 80% of the roots distributed within 20-40 cm soil depth, and more than 85% distributed within 0-40. Combined the observations of soil water content (soil water potential) in the plantation site, we observed that the water conditions within 20-40 cm layer were substantially better than in other layer. Additionally the temperature in month of July (the highest mean temperature in a year) within 20-40 cm layer just fell the optimum range for the growth of the major ECM strains. As for the soil pH it was not the limiting factor within 20-40 cm layer as well. This result suggested that the soil water condition and temperature in the roots distributing layer were suitable for the growth of the tested ECM strains in the plantation.'

long sentences

Editor's Comments:



- Unfortunately, this is very near to being incomprehensible. Perhaps the following:

'The distribution of ECM is directly related to the distribution of fine roots in Mongolian pine. About 80% of the roots are within the 20-40 cm layer of soil, where water content is greatest. Thus neither water nor temperature limited the growth of ECM in July, the hottest month of the year.'

- However, no reviewer is going to do what I have done above, and so the paper will be summarily rejected without going out for review.



long sentences

Example 2: 'The clay serves beneficially in the instances where the sands and silts contain hydrolysable nutritive cations and behaves as a detrimental factor if the sand and silt contain non-transferable plant nutrients or only those transferred very slowly.'

- This single sentence contains too much information (and many grammatical errors as well)...
 - The clay serves beneficially in some sands and silts...
 - Sands and silts contain hydrolysable nutritive cations
 - Sands and silts behave as detrimental factor
 - Some nutrients make the sands and silts a detrimental factor
 - Plant nutrients in sands and silts may be non-transferable
 - Or transfer very slowly



Repetition & Redundancy

- Overusing conjunctive words or phrases such as "However", "in addition", "Moreover". Keep the usage of these words to a minimum!
- Phrases without meaning. Learn from the following comments from an Editor:
 - Never say "and references therein" - as in [1] and [25]. Any intelligent reader knows to look at the references in a paper in order to get even more information.
 - Delete "In the present report". It is impossible for it to be in a different report! You start the conclusions "In this report, we have prepared....." This is nonsense. The samples were prepared in the laboratory!



Repetition and Redundancy

▪ As far as ... is concerned	→ As for
▪ At the present time	→ At present, or now
▪ By means of	→ By
▪ In order to	→ To
▪ In view of the fact that	→ Since; because
▪ Red in colour	→ Red
▪ Small in size	→ Small
▪ Until such time as	→ Until
▪ Adequate enough	→ Adequate
▪ Research work	→ Research, or work
▪ Schematic diagram	→ Scheme, or diagram



Wrong use of words and phrases

- Passive voice used for intransitive verbs
e.g., It has been arrived → It has arrived at...
- The 3rd singular form of verbs used for plural subjects
e.g., The data was calculated → the data were calculated
- Subject of the main clause is not the doer of the dangling modifier
e.g., “To improve the results, the experiment was done again.” → the experiment cannot improve the results itself. It should be “We did the experiment again to improve the results”.
- Multiple Nouns
e.g., ‘Mountain Ash regrowth forest 10 cm soil water calcium’ ...
Mean summer tree leaf water potential
→ the mean water potential of tree leaves measured in summer
- Spoken abbreviations: “it’s”, “weren’t”, “hasn’t” – Never use them in scientific writing



Avoid colloquialism

- *Do not* use colloquial speech, slang, or "childish" words or phrases, for example, "get", "done", and "since" or "as" when because should be used.
- *Do not* use contractions: for example, "*don't*" must be "*do not*" and "*isn't*" must be "*is not*" etc.



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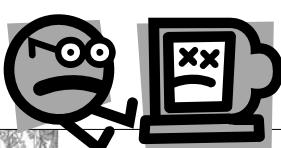
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Grammar, spelling, etc.

- You are encouraged to have an English expert proof reading your manuscript. At least you should make use of the spelling and grammar checking tool of your word processor.
- Be sparing when using unfamiliar words or phrase. Do not just rely on electronic dictionaries or translating software, which may bring out ridiculous results (often Chinglish...). You should understand the meaning of every single word you type in the manuscript.
- US or UK spellings should be used consistently in a paper
- Never let Editors find such a word in your manuscript! (Distinguish zero from the letter "O")

“Obviously”



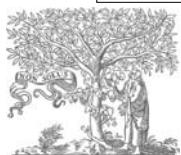
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Punctuation

- Write complete sentences with effective punctuation.
- The trend in scientific writing is toward shorter sentences with less punctuation.
- Commas are the most difficult type of punctuation to use. Using commas incorrectly can change the meaning.
- Avoid Asian fonts!

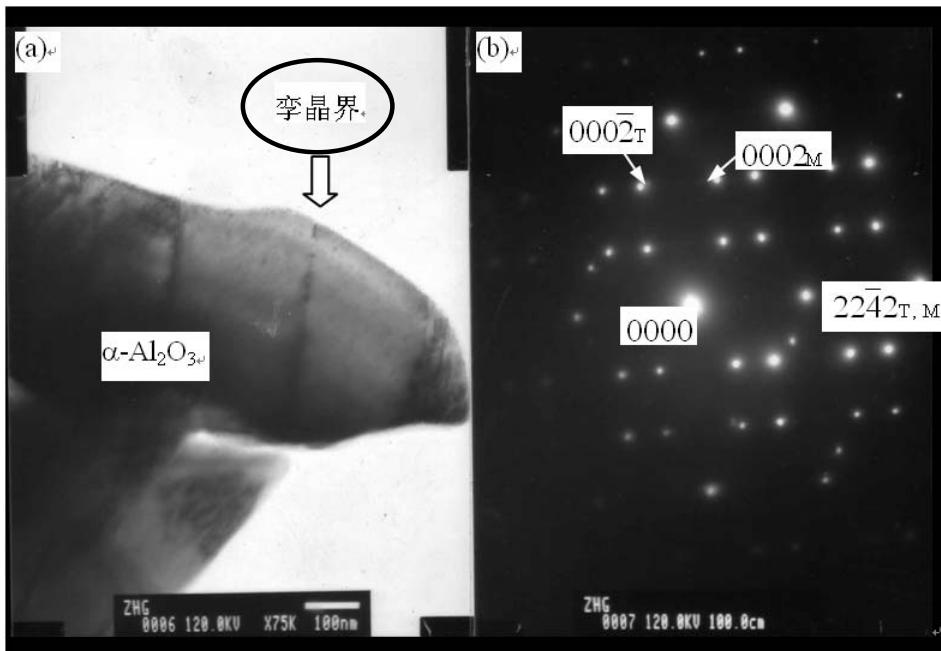


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Finally, you should use English throughout the manuscript...



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Good luck!

...and read the guide for authors



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