

How to Publish a World Class Paper

*From title to references
From submission to revision*

Presented by: Gerrit Borchard, Ph.D.
University of Geneva, Switzerland
gerrit.borchard@unige.ch

Location: University of Bern

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SSPhS
Swiss Society
of Pharmaceutical
Sciences



SSPhS
Swiss Society
of Pharmaceutical
Sciences



SAPhS
Swiss Academy
of Pharmaceutical
Sciences

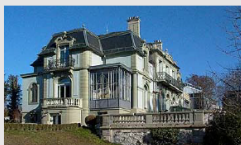
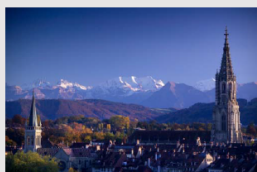
> 150 participants

> 60 posters

Swiss Pharma Science Day 2012

Wednesday, 29. August 2012

**University of Bern, Langhans Auditorium,
Pathology Building
and
House of the University of Bern**



Pascal Brenneisen, Novartis

Kurt Hostettmann

Dario Neri, ETHZ

Christoph Meyer, U Hospital Basel

Peter Kleist, GSK

Carina Lämmle, U Biberach



Me

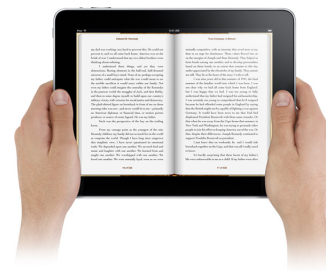
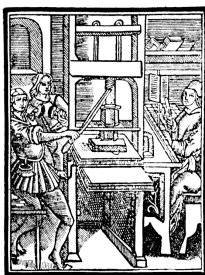
- Pharmacist, chair in Biopharmaceutical Sciences, University of Geneva, Switzerland
- Scholar
- Author and co-author
- Reviewer for numerous journals
- Serve on editorial boards
- Scopus ID 7004023476



Ecole de Pharmacie
EPGL
Genève – Lausanne

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Changes, changes...



www.articleofthefuture.com/

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Public-Private Partnerships 2.0

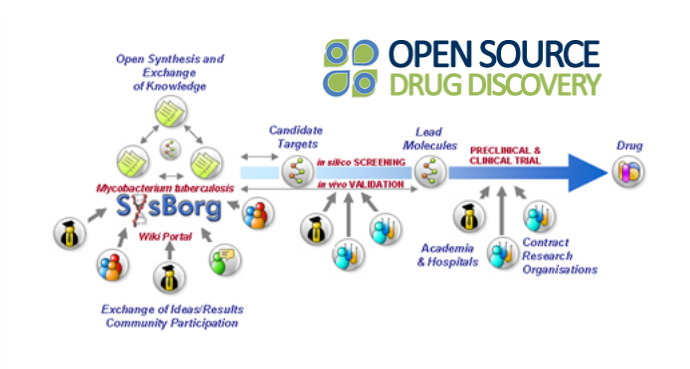
YouDrug

- Use of web 2.0 tools: social networks, chatrooms, etc.*
- *Instant* sharing of knowledge in a true Open Innovation approach.
- Online publication and “crowd” validation of experimental data: paradigm shift for the publishing industry?

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*Drug Discovery Today 13, 19/20, October 2008

PPP 2.0: Examples



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Outline

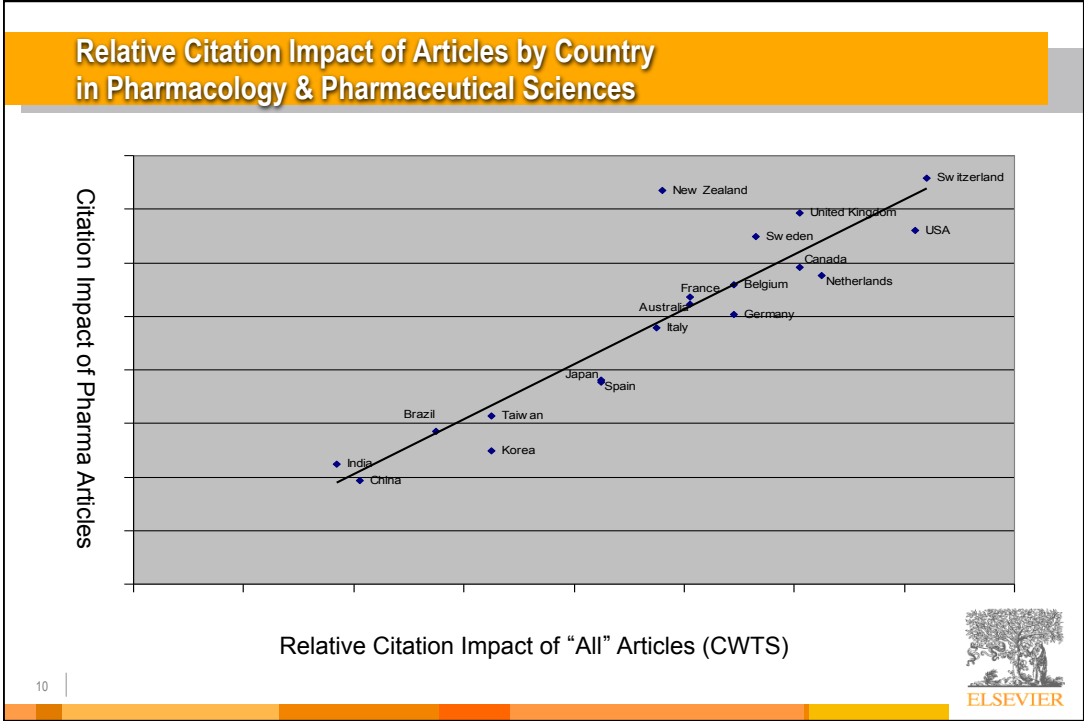
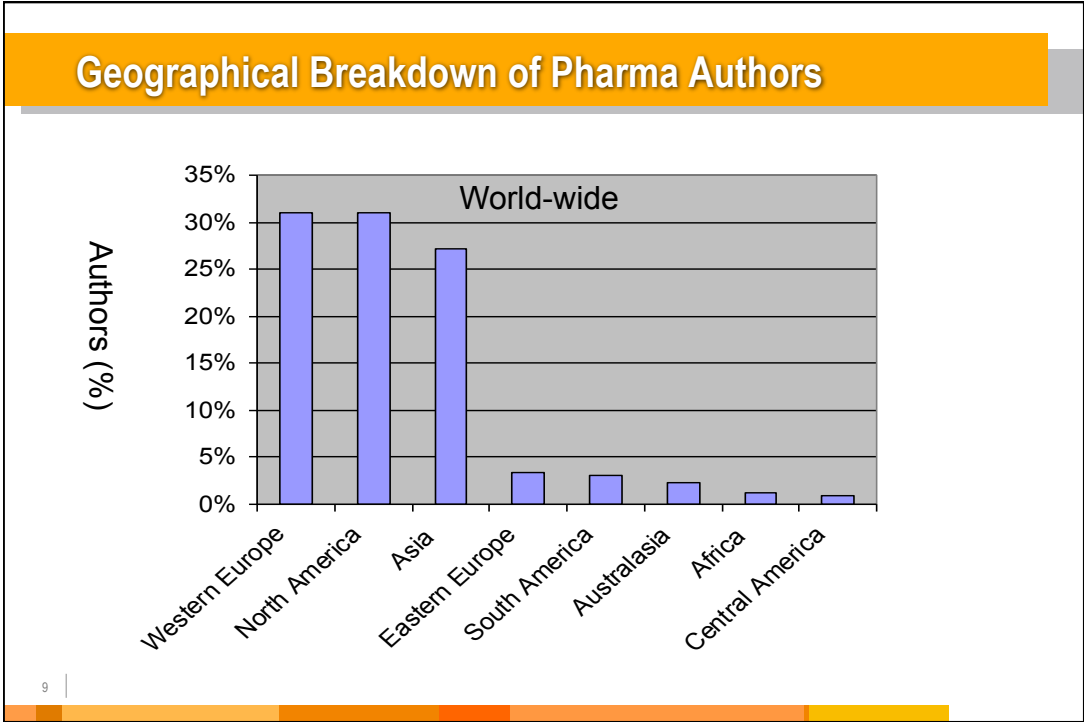
- Why do scientists publish?
- What is a good manuscript?
- How to write a good manuscript
 - Preparations before starting
 - Construction of an article
 - Some technical details that need special attention
 - Language
- Revision and response to reviewers
- Ethical Issues
- Conclusion: what leads to ACCEPTANCE

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Publications from emerging countries

- **Extreme quantitative growth since 1999**
 - China alone has flooded the global journal system with manuscripts.
- **Improvement of quality still needed**
 - Despite high manuscript rejection rates, the impact of Chinese publications is still below 70% of the world average.

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Pressure of publishing more

- 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 top 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**.
- Every manuscript takes up their precious time!
Nowadays they are working **even harder!**

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An international editor says...

“The following problems appear **much too frequently**”

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

– Paul Haddad, Editor, *Journal of Chromatography A*

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...and my own publishing advice is as follows:

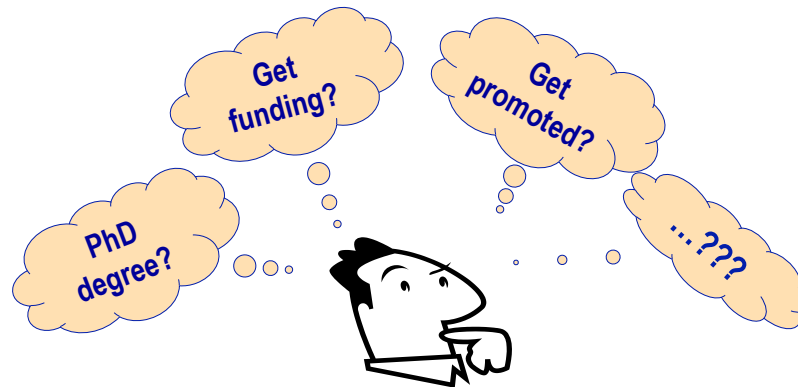
- Submit to the right journal
 - scope and prestige
- Submit to one journal only
- Do not submit “salami” articles
- Pay attention to journal requirements
- Pay attention to structure
- Check the English
- Pay attention to ethics standards

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- **Why do scientists publish?**
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What is *your personal reason* for publishing?



However, editors, reviewers, and the research community **DO NOT** care about these reasons.

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Why do scientists publish?

- Scientists publish to **share** with the science **COMMUNITY** something that **advances** (i.e. not repeats) **knowledge and understanding** in a certain field.
- **Eur J Pharm Biopharm: RULES OF THREE**
 - **Scope**: recent advances in pharmaceutical technology, biopharmaceutics or pharmaceutical biotechnology
 - **Too preliminary**: thorough and extensive study, conclusions supported by data presented
 - **Novelty**: must represent a novel approachFailure to meet any one of these criteria leads to **immediate** rejection

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

A research study is meaningful **only if...**

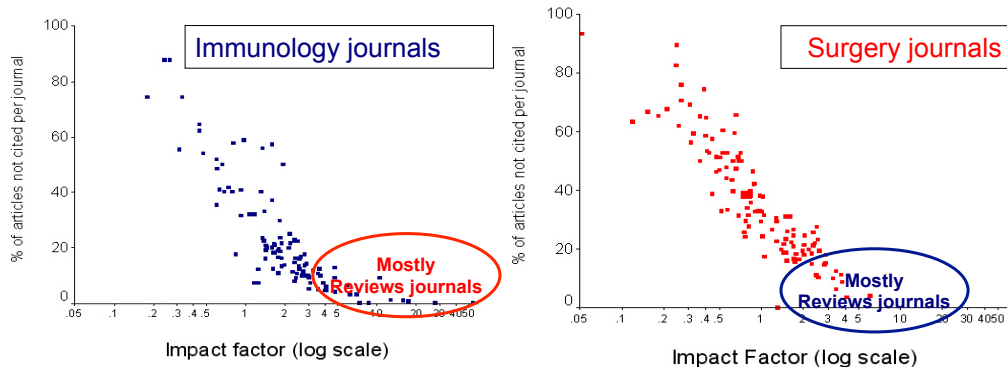
- it is clearly described, so
- someone else can use it in his/her studies
- it arouses other scientists' interest and
- allows others to reproduce the results.

By submitting a manuscript you are basically trying to sell your work to your community...

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Zero-Cited Articles versus Impact Factor

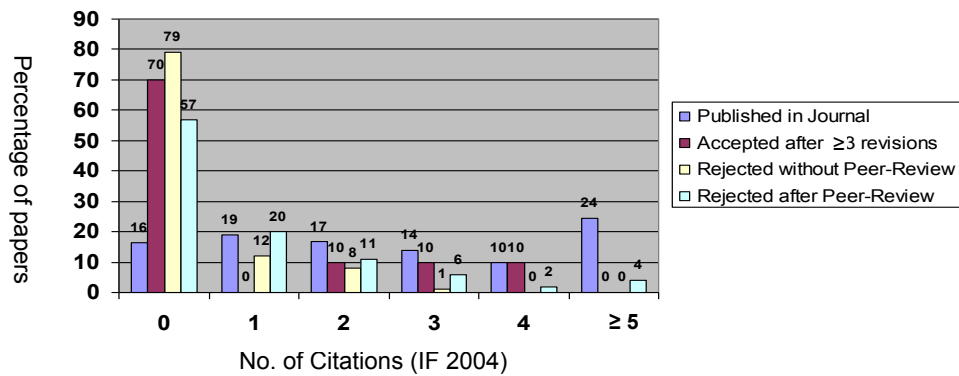
NB: Zero-cites in *Nature* 15-20%



AL Weale et al. BMC Medical Research Methodology 2004; 4: 14.

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Article rejections and multiple revisions: Case of FEBS Letters



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Journal publishers and editors want to bring down the number of uncited articles as much as possible

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...”

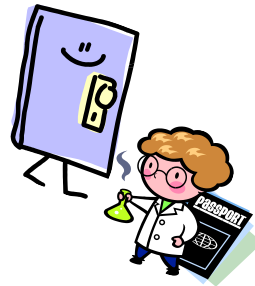
– Marv Bauer, Editor, *Remote Sensing of Environment*

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

- Journals are a core part of the process of scholarly communication, and are an integral part of scientific research itself.
- Journal Editors + Reviewers + Authors + Readers
→ A community of scientists

**You paper is your passport
to your community**



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When submitting a paper, you ask a group of people to 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 producing, printing, and distributing your paper all over the world!
- You are not supposed to create “garbage”:
 - 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

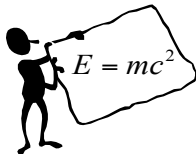
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A good manuscript makes readers (especially reviewers and editors) grasp the *scientific significance* as EASILY as possible.

- **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



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1. Think about WHY you want to publish your work

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

- Have you REALLY 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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It is necessary to **TRACK** the latest results regularly in your field. Something relevant may have been published in the many months your experiment took. You can easily do this by online searching.

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

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

[Save as Alert](#) 

Refine Results

Source Title	Author Name	Year	Document Type
<input type="checkbox"/> ICASSP, IEEE International Conference on Acoustics Speech and Signal Processing Proceedings (24)	<input type="checkbox"/> Doucet, A. (13)	<input type="checkbox"/> 2007 (33)	<input type="checkbox"/> Article (342)
<input type="checkbox"/> Computational Statistics and Data Analysis (16)	<input type="checkbox"/> Andrieu, C. (10)	<input type="checkbox"/> 2006 (71)	<input type="checkbox"/> Review (14)
<input type="checkbox"/> Statistics in Medicine (9)	<input type="checkbox"/> Godsill, S.J. (9)	<input type="checkbox"/> 2005 (59)	

[More...](#) [More...](#) [More...](#)

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 Statistical Planning and Inference* 137 (10), pp. 1-10

[Abstract + Refs](#) [View at Publisher](#) [Full Text](#) [Show Abstract](#)

Subject Areas

Life Sciences (> 3,400 titles) Physics

2. Decide on 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 the **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 on 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 the manuscript type. Sometimes outsiders see things more clearly than you.**

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3. Identify the potential audience for your paper

- **Identify the sector of readership/community for which a paper is meant**
- **Identify the interest of your audience**
 - “Knock-down of mdr-1 activity in transiently transfected HEK cells” in *Pharmazeutische Industrie?*
- **Is your paper of local or international interest?**
 - “A bioequivalence study of ibuprofen tablets marketed in Southern Sicily”

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4. Choose the right journal

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

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

Article List | Full Abstracts

Display Selected Articles | E-mail Articles | Export Citations

- Editorial Board
Page 1FC
PDF (582 K)
- Cloning, expression, purification and functional characterization of recombinant human...
SummaryPlus | raser, Najib Nematpoor, Rebecca Pollex, Catherine Morin, A
ulika B. Gupta
links | PDF (397 K)

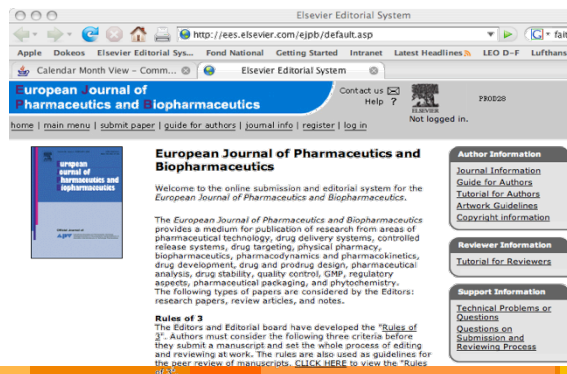
4. Choose the right journal

- You must get help from your supervisor and colleagues**
 - The supervisor (who is sometimes the corresponding author) has at least co-responsibility for your work. You are encouraged to chase your supervisor 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! (Trust us, we DO!)

5. One more thing before typing:

Read the 'Guide for Authors' of the target journal! 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.



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- **How to write a good manuscript**
 - Preparations before starting
 - **Construction of an article**
 - Some technical details that need special attention
 - Language

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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)
- Journal space is precious. Make your article as brief as possible. If clarity can be achieved in n words, never use $n+1$.

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- The progression of the thematic scope of a paper within these sections typically follows a general pattern:
general → particular → general
- Each section has a definite purpose.
- **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?

– However, procedure in fundamental and clinical research may differ!

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1. Title – what is the paper broadly about?

- **Your opportunity to attract the reader's attention. Remember: readers are the potential authors who will cite your article**
- **Reviewers will check whether the title is specific and whether it reflects the content of the manuscript.**
- **Editors hate titles that make no sense or fail to represent the subject matter adequately; so, keep it informative and concise;**
- **Avoid technical jargon and abbreviations if possible. You wish to have a readership as large as possible, right?**
- **Discuss with your co-authors.**

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Formulation development of nanoparticles

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2. Abstract – tell the prospective readers what you did and what were the important findings.

- This is the advertisement of your article. Make it interesting, and easy to be understood without reading the whole article
- Avoid using jargon and uncommon abbreviations if possible.
- You must be accurate! Use words which reflect the precise meaning
- A clear abstract will strongly influence whether or not your work is further considered;
- Keep it as BRIEF as possible!!!

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2. Abstract – tell the prospective readers what you did and what were the important findings.

Can apparent superluminal neutrino speeds be explained as a quantum weak measurement?

M V Berry¹, N Brunner¹, S Popescu¹ & P Shukla²

¹HH Wills Physics Laboratory, Tyndall Avenue, Bristol BS8 1TL, UK

²Department of Physics, Indian Institute of Technology, Kharagpur, India

Abstract

Probably not.

Submitted to: *J.Phys.A*, October 2011

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3. Keywords – mainly used for indexing and searching

- **It is the label of your manuscript.**
 - Avoid words with a broad meaning, but do neither use too narrow terms (get into the Google groove...)

- **Only abbreviations firmly established in the field are eligible**
 - e.g., DNA

- **Check the Guide for Authors!**
 - Number, label, definition, thesaurus, range, and other special requests

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4. Introduction – to convince readers that you clearly know why your work is useful

- **What is the problem? Are there any existing solutions? What is its main limitation? And what do you hope to achieve?**

- **Provide a perspective consistent with nature of the journal. You need to introduce the main scientific publications on which your work is based.**

- **Cite a couple of original and important works, including recent review articles.**

- **Avoid improper citations of too many references irrelevant to the work, or inappropriate judgments on your own achievements. Editors will think that you have no sense of purpose at all!**

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Watch out for the following:

- **Never use more words than necessary. Never make this section into a history lesson. Long introductions put readers off. Introductions of Letters are even shorter.**
- **We all know that you are keen to present your new data. But do not forget that you need to give the whole picture at first.**
- **Do not mix introduction with results, discussion, and conclusion. Always keep them separate to ensure that the manuscript flows logically from one section to the next.**
- **Expressions such as “novel”, “first time”, “first ever”, “paradigm-changing” are not preferred. Use them sparingly.**

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5. Methods – how was the problem studied

- **Include detailed information, so that a knowledgeable reader can reproduce the experiment.**
- **However, use references and Supporting Materials to indicate the previously published procedures. Do not repeat the details of established methods. Broad summaries are sufficient.**
- **Reviewers will criticize incomplete or incorrect descriptions (and may recommend rejection).**

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6. Results – What have you found?

- Only representative results should be presented. The results should be essential for discussion. Use Supporting Materials freely for data of secondary importance.
- Do not attempt to “hide” data in the hope of saving it for a later paper. You may lose evidence to reinforce your conclusion.
- Use sub-headings to keep results of the same type together – easier to review and read. Number these sub-sections for the convenience of internal cross-referencing.
- Decide on a logical order of the data that tells a clear and easy to understand story.

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6. Results – What have you found? (cont'd)

- Generally, tables give the actual experimental results.
- Graphs are often used for comparison of experimental results with those of previous works, or with calculated/theoretical values.
- No illustrations should duplicate the information described elsewhere in the manuscript.
- Illustrations should be used for ESSENTIAL data only.
- The legend of a figure should be brief and should contain sufficient explanatory details to make the figure understood easily without referring to the text.

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Appearance counts!

- **Un-crowded plots: 3 or 4 data sets per figure; well-selected scales; appropriate axis label size; symbols clear to see and data sets easy to discriminate.**
- **Each photograph must have a scale marker on one corner.**
- **Use color ONLY when necessary. If different line styles can clarify the meaning, never use colors or other thrilling effects.**
- **Color needs to be visible and distinguishable when printed out in black & white.**
- **Do not include long boring tables! (e.g., chemical compositions of emulsion systems).**

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7. Discussion – What the results mean

- **It is the most important section of your article. Here you get the chance to SELL your data!**
 - **A huge numbers of manuscripts are rejected because the Discussion is weak**
- **Make the Discussion corresponding to the Results.**
 - **But do not reiterate the results**
- **You need to compare the published results with yours.**
 - **DO NOT ignore work in disagreement with yours – confront it and convince the reader that you are correct or better**

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Watch out for the following:

- **Statements that go beyond what the results can support.**
- **Unspecific expressions such as “higher temperature”, “at a lower rate”.**
- **Quantitative descriptions are always preferred.**
- **Sudden introduction of new terms or ideas.**
- **Speculations on possible interpretations are allowed. But these should be rooted in fact, rather than imagination.**
- **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.**

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8. Conclusions – How the work advances the field from the present state of knowledge

- **Without a clear conclusion section reviewers and readers will find it difficult to judge the work, and whether or not it merits publication in the journal.**
- **DON'T REPEAT THE ABSTRACT, or just list experimental results. Trivial statements of your results are unacceptable in this section.**
- **You should provide a clear scientific justification for your work in this section, and indicate uses and extensions if appropriate. Moreover, you can suggest future experiments and point out those that are underway.**

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Author versus Journal Impact Factors

Journal Impact Factors do not reflect the “impact” of an individual author’s research articles

- Relative contributions of author and co-authors
- Well-cited articles in low-IF journals, and poorly-cited articles in high-IF journals
 - Also *Nature* (IF₂₀₀₆ = 26.681) has 15-20% zero-cited articles
- Reviews journals
- Review articles inflate a journal’s Impact Factor
- “Non-source items”
- Editorial policies of journals

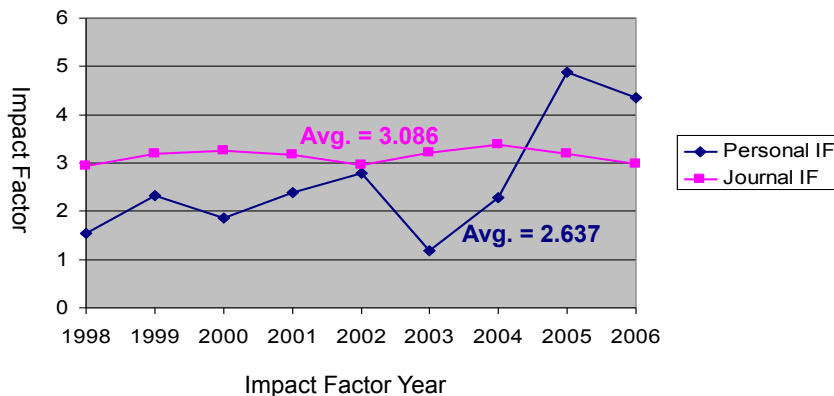
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Author versus Journal Impact Factors

Author N.N.:

≈100 original research articles (Reviews excluded)

≈ 50% published in ISI category “Pharmacology & Pharmacy”



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10. Cover letter – your chance to speak to the Editor directly

- Do not summarize your manuscript, or repeat the abstract, but mention what makes it special to the journal.
- Mention special requirements, e.g. if you do not wish your manuscript to be reviewed by certain reviewers.
- Many editors won't reject a manuscript only because the cover letter is bad. However, a good cover letter may accelerate the editorial process of your paper.
- View it as a letter in a job application: remember, you want to “sell” your work...

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▪ How to write a good manuscript

- Preparations before starting
- Construction of an article
- Some technical details that need special attention
- Language

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Technical details

- **Length of the manuscript**
- **Supporting material**
- **Text layout**
- **Abbreviations**

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Suggest potential reviewers

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

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Author names: common problems

Keep consistent in the style of writing your full name and the abbreviation for all your publications – for the efficiency of indexing and searching.

BUT:

- Müller = Mueller or Muller ? Aebischer or Äbischer or Abischer?
- Lueßen = Lueben ?
- Borchard or Borchardt ?
- Dr. Jaap Van Harten = Dr. Van ???
 - ... and what happens if you marry ?

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▪ **How to write a good manuscript**

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KISS: Keep It Simple and Succinct (or Stupid...?)

- **Clarity:**
 - "Everything should be made as simple as possible, but not simpler" (Einstein)
- **Objectivity**
 - Philosophy of scientific method - avoid personal pronouns
- **Accuracy**
 - Avoid imprecise language (nowadays - currently)
- **Brevity**
 - Write briefly and to the point using active voice and short sentences

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Grammar, spelling, etc.

- Have an English expert proof read your manuscript. At least you should make use of the spelling and grammar checking tool of your word processor.
- Limit the use of unfamiliar words or phrases. 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 spelling should be used consistently throughout a paper
- EJPB offers language editing service for excellent manuscripts

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- **Why do scientists publish?**
- **What is a good manuscript?**
- **How to write a good manuscript for international journals**
 - Preparations before starting
 - Construction of an article
 - Some technical details that needs special attention
 - Language
- **Revision and response to reviewers**
- **Ethical issues**
- **Conclusion: what leads to ACCEPTANCE**

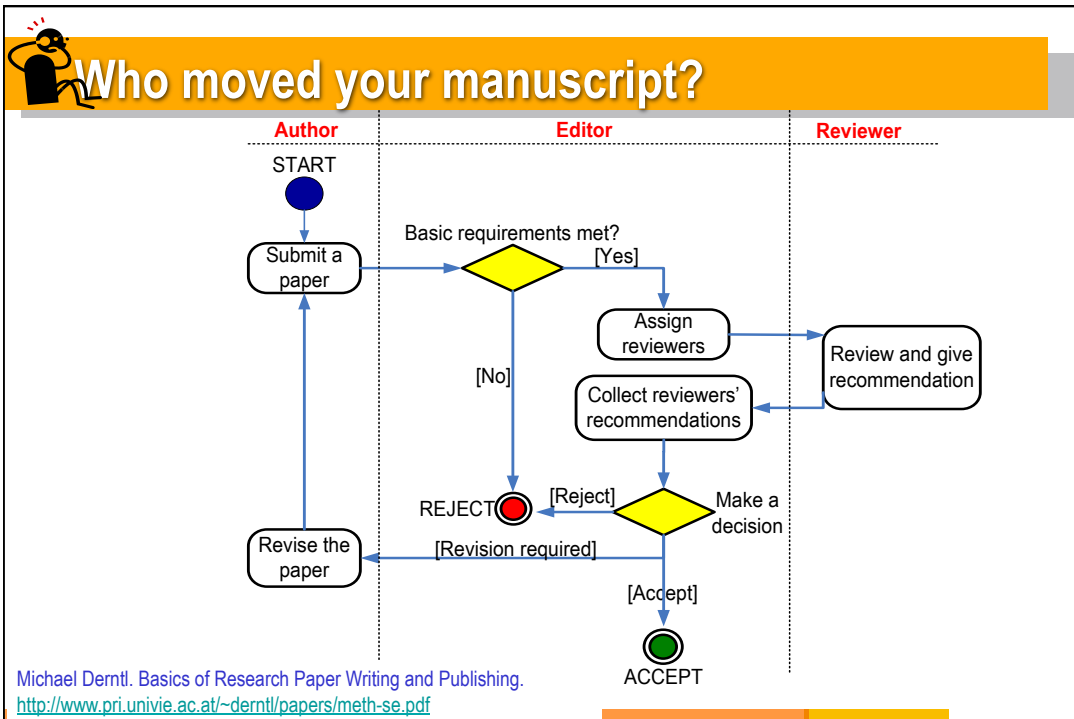
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Why revision is important and necessary?

- **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

Please cherish your own achievements!

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Fast Rejection

Many journals adopt the system of initial editorial review. Editors may reject a manuscript without sending it for review

Why?

- The peer-review system is **grossly overloaded** and editors wish to use reviewers only for those papers with a good probability of acceptance.
- It is a **disservice** to ask reviewers to spend time on work that has clearly evident deficiencies.

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To avoid early rejection, please make every attempt to make the manuscript as good as possible.

- **No one gets it right at the first time!**
 - Write, write, and re-write
- **Suggestions:**
 - Take several days of rest. Refresh your brain with different things. Come back with a critical view.
 - Ask your colleagues and supervisor to review your manuscript first.

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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

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

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.

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Revision after submission

Carefully study the comments and prepare a detailed letter of response.

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Consider reviewing a procedure that several peers discuss your work. Learn their comments, and join the discussion.

- 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 acceptance before you carefully study the comments.
- Revise the **whole** manuscript and not just the parts the reviewers point out.

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A review of the revised manuscript is common. Cherish the chance of discussing your work directly with other scientists in your community. 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.

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Be very self-critical when you submit a paper rejected after review!

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Do not take rejection 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 will not 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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- **Why do scientists publish?**
- **What is a good manuscript?**
- **How to write a good manuscript**
 - Preparations before starting
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 - Some technical details that need special attention
 - Language
- **Revision and response to reviewers**
- **Ethical issues**
- **Conclusion: what leads to ACCEPTANCE**


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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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doi:10.1016/j.sigpro.2005.07.019 Cite or Link Using DOI
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RETRACTED: Matching pursuit-based approach

Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and Publisher of *Signal Processing*.
<http://www.elsevier.com/locate/withdrawalpolicy>.

Reason: This article is virtually identical to the previously published article "Matching pursuit-based approach for SNR improvement in ultrasonic NDT", *Independent Non-Destructive Testing*, volume 38 (2005) 453 – 458 authored by N. B. Karam and S. S. Ghosh.

the echoes issuing from the flaws to be detected. Therefore, it cannot be cancelled by classical time averaging or matched band-pass filtering techniques.

Many signal processing techniques have been utilized for signal-to-noise ratio (SNR) improvement in ultrasonic NDT of highly scattering materials. The most popular one is the split spectrum processing (SSP) [1–3], because it makes possible real-time ultrasonic test for industrial applications, providing quite good results. Alternatively to SSP, wavelet transform (WT) based denoising/detection methods have been proposed during recent years [4–8], yielding usually to higher improvements of SNR at the expense of an increase in complexity. Adaptive time-frequency analysis by basis pursuit (BP) [9,10] is a recent technique for decomposing a signal into an optimal superposition of elements in an over-complete waveform dictionary. This technique and some other related techniques have been successfully applied to denoising ultrasonic signals contaminated with grain noise in highly scattering materials [11,12], as an alternative to the WP technique, the computational cost of the BP algorithm being the main drawback [9].

In this paper, we propose a novel matching pursuit-based signal processing method for improving SNR in ultrasonic NDT of highly scattering materials, such as steel and composites. Matching pursuit is used instead of BP to reduce the complexity. Despite its iterative nature, the method is fast enough to be real-time implemented. The performance of the proposed method has been evaluated using both computer simulation and experimental results, even when the input SNR (SNR_i) is lower than 6dB (the level of echoes from defects) and the SNR_i is above the level of the background noise.

2. Matching pursuit

Matching pursuit was introduced by Mallat and Zhang [13]. Let us suppose an approximation of the ultrasonic backscattered signals $s[n]$ as a linear expansion in terms of functions $g_i[n]$ chosen from an over-complete dictionary. Let H be a Hilbert space. We define the over-complete dictionary as a family $D = \{g_i, i=0, 1, \dots, L\}$ of vectors in H , such as $\|g_i\| = 1$.

The problem of choosing functions $g_i[n]$ that best approximate the analysed signal $s[n]$ is computationally very complex. Matching pursuit is an iterative algorithm that offers sub-optimal solutions for decomposing a signal in terms of expansion functions chosen from a dictionary, where L atoms is used as the approximation metric because of its mathematical convenience. Then a well-designed dictionary is used in matching pursuit, the non-linear nature of the algorithm leads to compact and sparse signal models.

In each step of the iterative procedure, vector $g_i[n]$ which gives the largest inner product with the analysed signal is chosen. The contribution of this vector is then subtracted from the signal and the process is repeated on the residual. At the m th iteration the m th value is

$$r^{(m)}[n] = s[n] - \sum_{i=0}^{m-1} a_i^{(m)} g_i[n], \quad m=0, 1, \dots, M \quad (1)$$

where $a_i^{(m)}$ is the weight associated to optimum atom $g_i[n]$ at the m th iteration.

The weight $a_i^{(m)}$ associated to each atom $g_i[n] \in D$ at the m th iteration is introduced to compute all the inner products with the residual $r^{(m)}[n]$:

$$a_i^{(m)} = \frac{\langle r^{(m)}[n], g_i[n] \rangle}{\langle g_i[n], g_i[n] \rangle} = \frac{\langle r^{(m)}[n], g_i[n] \rangle}{\|g_i[n]\|^2} = \langle r^{(m)}[n], g_i[n] \rangle \quad (2)$$

The optimum atom $g_{i_{opt}}[n]$ (and its weight $a_{i_{opt}}^{(m)}$) at the m th iteration are obtained as follows:

$$i_{opt}^{(m)} = \underset{i \in D}{\operatorname{argmax}} |\langle r^{(m)}[n], g_i[n] \rangle|^2 \quad (3)$$

$$a_{i_{opt}}^{(m)} = \underset{i \in D}{\operatorname{argmax}} |\langle r^{(m)}[n], g_i[n] \rangle| \quad (4)$$

The computation of correlations $\langle r^{(m)}[n], g_i[n] \rangle$ for all vectors $g_i[n]$ at each iteration implies a high computational effort, which can be substantially reduced using an updating procedure derived from Eq. (1). The correlation updating procedure [13] is performed as follows:

$$\langle r^{(m+1)}[n], g_i[n] \rangle = \langle r^{(m)}[n], g_i[n] \rangle - a_{i_{opt}}^{(m)} \langle g_{i_{opt}}^{(m)}[n], g_i[n] \rangle \quad (4)$$

The article of which the authors committed plagiarism: it won't be removed from ScienceDirect. Everybody who downloads it will see the reason of retraction...

Signal Processing
Volume 86, Issue 5, May 2006, Pages 962–970

Data fabrication and falsification

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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How many scientists fabricate and falsify?

- According to a recent study*, almost 2% of all scientists admit "to have fabricated, falsified or modified data or results at least once".
- Up to one third admitted other "questionable research practice".

*D. Fanelli, *PLoS One* 2009; 4e:5738

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Case study: Editorial in Life Sci 89, 755-756, 2011

- Editors were informed by a reader of suspicion of fraud of a paper published in *Vascular Pharmacology* (digital manipulation of published images).
- Similar problems were found in at least two more papers in *Angiogenesis* and *Life Sciences*, editors decided to act.
- Senior author was notified by editors and asked to explain.
- As response was unsatisfactory, denying all attempt at fraud.
- The chancellor of the university was notified, an internal committee established.
- The senior author, who was a senior professor and head of department, was asked to resign, and the PhD registration of 6 co-authors was canceled.

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Life Sciences 89 (2011) 504

Contents lists available at ScienceDirect

Life Sciences

journal homepage: www.elsevier.com/locate/lifescie

Retraction Notice

Retraction notice to "Pigment epithelium-derived factor inhibits advanced glycation end-product-induced angiogenesis and stimulates apoptosis in retinal endothelial cells"
[Life Sciences 85 (2009) 719–731]

Sardarpasha Sheikpranbabu, Ravinarayanan Haribalaganesh, Elayappan Banumathi, Namagiri Sirishkumar, Kyung-jin Lee, Sangiliyandi Gurunathan

Department of Biotechnology, Division of Molecular and Cellular Biology, Kalasalingam University, Anand Nagar, Krishnankoil, 626190, Tamil Nadu, India
Department of Ophthalmology, Meemakshi Mission Hospital and Research Centre, Madurai, 625 107, Tamil Nadu, India
Department of Life Science, Cell Dynamics Research Centre, Gwangju Institute of Science and Technology, Gwangju, 500 712, Republic of Korea

This article has been retracted at the request of the Editors as it contains manipulated figures. Panels in Figure 3 are noted as representative photomicrographs of cell dishes at 0 hr and 24 hr following scratching. However, these panels do not represent independent data, but instead contain repetitive cell patterns suggestive of digital manipulation of this figure. As such this article represents a severe abuse of the scientific publishing system. The scientific community and the Editors take a very strong view on this matter, and apologies are offered to readers of the journal that this problem was not detected during the submission and review process.

Note: The following articles related to this case have also been retracted:

Gold nanoparticles inhibit vascular endothelial growth factor-induced angiogenesis and vascular permeability via Src dependent pathway in retinal endothelial cells.
Kalishwaralal K, Sheikpranbabu S, BarathManiKanth S, Haribalaganesh R, Ramkumarpandian S, Gurunathan S
Angiogenesis. 2011 Mar;14(1):29–45
DOI: 10.1007/s10456-010-9193-x

Pigment epithelium-derived factor inhibits vascular endothelial growth factor- and interleukin-1beta-induced vascular permeability and angiogenesis in retinal endothelial cells.
Sheikpranbabu S, Ravinarayanan H, Elayappan B, Jongsun P, Gurunathan S
Vascul Pharmacol. 2010 Jan-Feb;52(1-2):84–94.
DOI: 10.1016/j.vph.2009.12.002

Isolation and characterization of goat retinal microvascular endothelial cells.
Haribalaganesh R, Banumathi E, Sheikpranbabu S, Deepak V, Sirishkumar N, Gurunathan S
In Vitro Cell Dev Biol Anim. 2010 Jun;46(6):529–37.
DOI: 10.1007/s11626-010-9292-4

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Ethics Issues in Publishing

Publication misconduct

- Plagiarism:
 - Different forms / severities
 - The paper must be original to the authors
- Duplicate submission
- Duplicate publication
- Appropriate acknowledgement of prior research and researchers
- Appropriate identification of all co-authors
- Conflict of interest

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Plagiarism

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

Federal Office of Science and Technology Policy, 1999

“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.”

**Professor Bruce Railsback
Department of Geology, University of Georgia**

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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*, but will certainly cause rejection of your paper.
- Plagiarism will *hurt your reputation* in the scientific community.

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Most common forms of plagiarism: inappropriate or inadequate paraphrasing

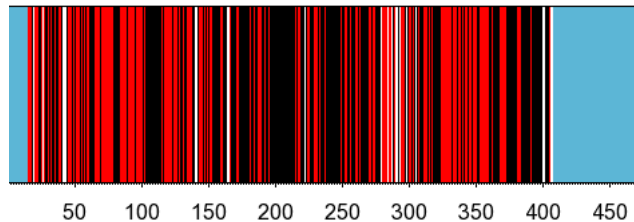
- Paraphrasing is restating someone else's ideas while not copying verbatim
- Unacceptable paraphrasing includes any of the following:
 - using phrases from the original source without enclosing them in quotation marks
 - emulating sentence structure even when using different wording
 - emulating paragraph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

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Plagiarism and social network

1218 Plagiatsfragmente aus 135 Quellen
auf 371 von 393 Seiten (94.4%)
in 10421 plagiierten Zeilen (63.8%)



Stand: 03.04.2011 11:55 Uhr



What guarantees 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 you paraphrasing with the source, to see**
 - whether you change the wording and the structure sufficiently
 - whether the true meaning of the source is retained.

Multiple submissions: sending same manuscript to more than one journal at the same time

- Multiple submissions save your time but waste editor's time
- 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
- You should not send your manuscripts to a second journal UNTIL you receive the final decision of the first journal

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Duplicate Publication

- Two or more papers, without full cross reference, share the same hypotheses, data, discussion points, or conclusions
- An author should not submit for consideration in another journal a previously published paper.
- Published studies do not need to be repeated unless further confirmation is required.
- Previous publication of an abstract during the proceedings of conferences does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission.
- Re-publication of a paper in another language is acceptable, provided that there is full and prominent disclosure of its original source at the time of submission.
- At the time of submission, authors should disclose details of related papers, even if in a different language, and similar papers in press.
- This includes translations

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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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Improper author contribution

Authorship credit should be based on

**substantial contributions to conception and design, or
acquisition of data, or analysis and interpretation of data;**

**drafting the article or revising it critically for important
intellectual content;**

final approval of the version to be published.

Authors should meet all three conditions.

**Those who have participated in certain substantive aspects
of the research project should be acknowledged or listed as
contributors.**

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Improper author contribution

- 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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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*.
- 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.

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What leads to acceptance ?

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



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

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References & Acknowledgements – a growing list

- Mark Ware Consulting Ltd, Publisin gand Elearning Consultancy. Scientific publishing in transition: an overview of current developments. Sept., 2006. [www.stm-assoc.org/storage/Scientific Publishing in Transition White Paper.pdf](http://www.stm-assoc.org/storage/Scientific_Publishing_in_Transition_White_Paper.pdf)
- Guide for Authors of Elsevier journals.
- Ethical Guildlines for Journal Publishing, Elsevier. http://www.elsevier.com/wps/find/intro.cws_home/ethical_guidelines#Duties%20of%20Authors
- International Committee of Medical Journal Editors. Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication. Feb. 2006
- <http://www.publicationethics.org.uk/guidelines>
- <http://www.icmje.org/index.html#ethic>
- <http://www.onlineethics.org/>
- <http://owl.english.purdue.edu/owl/>
- <http://www.physics.ohio-state.edu/~wilkins/writing/index.html>
- George D. Gopen, Judith A. Swan. The science of Scientific Writing. American Scientist (Nov-Dec 1990), Vol. 78, 550-558.
- Michael Derntl. Basics of Research Paper Writing and Publishing. <http://www.pri.univie.ac.at/~derntl/papers/meth-se.pdf>
- Thomas H Adair. Professor, Physiology & Biophysics Center of Excellence in Cardiovascular-Renal Research, University of Mississippi Medical Center. <http://dor.umc.edu/ARCHIVES/WritingandpublishingresearcharticleAdair.ppt>
- Bruce Railsback. Professor, Department of Geology, University of Georgia. Some Comments on Ethical issues about research. www.gly.uqa.edu/railsback/11111misc/ResearchEthics.html
- Peter Young. Writing and Presenting in English. The Rosetta Stone of Science. Elsevier 2006.
- Philip Campbell. Editor-in-Chief, Nature. Futures of scientific communication and outreach. June 2007.
- Yaoqi ZHOU. Recipe for a quality Scientific Paper: Fulfill Readers' and Reviewers' Expectations. <http://sparks.informatics.iupui.edu>
- EDANZ Editing training materials. 2006 <http://liwenbianji.com>, <http://www.edanzediting.com/english.html>

