



**Publishing
Connect**

Partnering with the Global Research Community

How to Successfully Publish Scientific Articles

Wendy Hurl and Adam Wheeler
STM Publishers, Elsevier
ACS April 2013, New Orleans, USA



Successful publishing is all about attention to detail



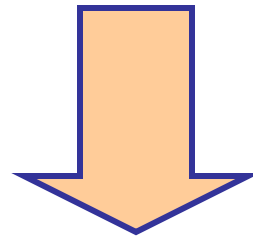
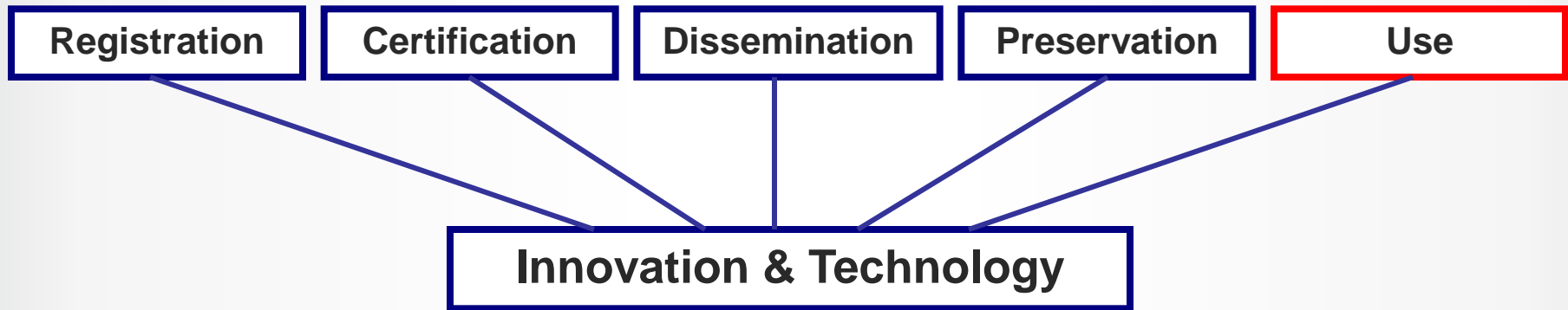
Outline – part 1

- **Initial Considerations**
 - Are you ready to publish?
 - What is a strong manuscript?
 - Paper types
 - Choosing the right journal
- **How to write a good manuscript**
 - Preparations before starting
 - Constructing your article
 - Special attention
 - Language
 - Submission

Outline – part 2

- **Ethical issues – what to look out for**
 - What is unethical behaviour?
 - Scientific misconduct
 - Publishing misconduct
 - Consequences
- **The review process**
 - Demystifying the ‘black hole’
 - Types of review
 - What do reviewers look for?
- **The Article of the Future**
- **Tools Available to Authors**
- **Elsevier and Open Access**

The Publisher's Role



Publishers coordinate the exchange of ideas between authors, editors, reviewers, and the wider STM audience of researchers, scientists, health professionals, students, and patients.

Initial Considerations

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*



Are you ready to publish?

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

This could be in the form of:

- Presenting new, original results or methods
- Rationalizing, refining, or reinterpreting published results
- Reviewing or summarizing a particular subject or field

If you are ready to publish, a strong manuscript is what is needed next

What is a strong manuscript?

- Has a clear, useful, and exciting message
- Presented and constructed in a logical manner
- Reviewers and editors can grasp the significance easily



**Editors and reviewers are all busy people –
make things easy to save their time**

Paper Types

Full articles/Original article

- Standard for disseminating completed research findings
- Typically 8-10 pages, 5 figures, 25 references

Short Communications Articles

- Quick and early communications of significant, original advances.

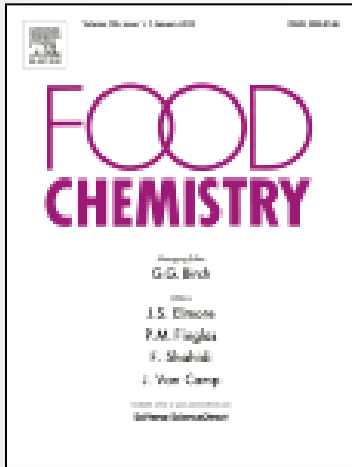
Review papers/perspectives

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

Choosing the right journal

- Look at **your references** – these will help you narrow your choices.
- Review **recent publications** in **each candidate journal**. Find out the hot topics, the accepted types of articles, etc.
- Find out journal specifics:
 - Is the journal **peer-reviewed**?
 - Who is this journal's **audience**?
 - What is the **average time to publish**?
 - What is the journal's **Impact Factor**?
- Decide on **one** journal. DO NOT submit to multiple journals
- Consider journals' **Guides/Instructions for Authors**

What about the Impact Factor?



2011 Impact Factor

- the IF can give guidance but should NOT be the sole reason to submit to a journal.
- The IF indicates the cites to recent items / number of recent items (published in a 2 year period) in a journal

Cites in 2011 to items published in:	2010 = 3382	Number of items published in:	2010 = 1164
	2009 = 4991		2009 = 1127
	Sum: 8373		Sum: 2291

Calculation:	<u>Cites to recent items</u>	<u>8373</u>	=	3.655
	Number of recent items	2291		

How to write a good manuscript

Preparations before you start



– Read the Guide for Authors

- You can find the Guide for Authors on the journal homepage
- Stick to the Guide for Authors in your manuscript, *even in the first draft* (text layout, nomenclature, figures & tables, etc.). In the end it will save you time, and also the editor's.
- Editors (and reviewers) do not like wasting time on poorly prepared manuscripts.

The screenshot shows the Elsevier website for the journal Life Sciences. The top navigation bar includes links for 'Books & journals', 'Online tools', 'Authors, editors & reviewers', 'About Elsevier', and 'Help'. The 'Authors, editors & reviewers' link is highlighted with a red box, and a red arrow points from it to a larger, detailed view of the navigation bar on the right. The detailed view shows the following links: 'Guide for Authors', 'Submit Your Paper', 'Track Your Paper', 'Order Journal', and 'Access Full Text'. The main content area includes sections for 'Special Issues', 'Recent Articles', and 'Most Read Articles'.

The detailed view of the navigation bar shows the following links: 'Guide for Authors', 'Submit Your Paper', 'Track Your Paper', 'Order Journal', and 'Access Full Text'. The navigation bar also includes social media icons for Facebook and Twitter, and a star icon for favorites.

– Consider ways to give the readers a wider insight into your research using Journal/Publisher-specific innovations

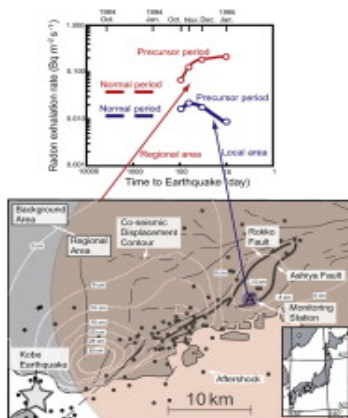
2   **Anomalous change in atmospheric radon concentration sourced from broad crustal deformation: A case study of the 1995 Kobe earthquake** Original Research Article

Pages 825-830

Yumi Yasuoka, Yusuke Kawada, Yasutaka Omori, Hiroyuki Nagahama, Tetsuo Ishikawa, Shinji Tokonami, Masahiro Hosoda, Tetsuo Hashimoto, Masaki Shinogi

 [Show preview](#) |  [PDF \(866 K\)](#) | [Related articles](#) | [Related reference work articles](#)

Graphical abstract



Graphical Abstracts
and Highlights

Highlights

- ▶ The pre-seismic radon in air was observed as one exhaled from the regional area.
- ▶ The regional area had a large displacement up to 30 cm due to the co-seismic event.
- ▶ Mean radon exhalation rates are considered to increase up to five times higher.
- ▶ The regional area was highly strained in the order of 10^{-8} .

Constructing your article

- *General structure of a research article*

- **Title**
 - **Abstract**
 - **Keywords**
-

- **Main text (IMRAD)**
 - **Introduction**
 - **Methods**
 - **Results**
 - **And**
 - **Discussion**
-

- **Conclusion**
- **Acknowledgements**
- **References**
- **Supplementary Data**

The progression of the thematic scope of a paper:

general → specific → general

However, we often write in the following order:

- **Figures and tables**
- **Methods, Results and Discussion**
- **Conclusions and Introduction**
- **Abstract and title**

- *Title*

- Attract the reader's attention
- Be specific
- Keep it informative and concise
- Avoid jargon and abbreviations

- Title – some examples

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



- *Abstract*

A clear abstract will strongly influence whether or not your work is further considered...

We tackle the general linear instantaneous model (possibly underdetermined and noisy) where we model the source prior with a Student t distribution. 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 methods, Gibbs sampler and variational Bayes for 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 separation 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.

**What has
been done**

ing the whole

**What are the
main findings**

- *Keywords*

Used by indexing and abstracting services

- Labels/tags
- Use only established abbreviations (e.g. DNA)
- Check the 'Guide for Authors'

Article Title

“Silo music and silo quake: granular flow-induced vibration”

“An experimental study on evacuated tube solar collector using supercritical CO₂”

Keywords

Silo music, Silo quake, stick-slip flow, resonance, creep, granular discharge

Solar collector; Supercritical CO₂; Solar energy; Solar thermal utilization

- *Introduction*

Provide context to convince readers that you clearly know why your work is useful

Sample 1st paragraph of an Introduction

1. Introduction

The environmental pollution and the energy crisis have brought serious problems to the world environment and sustainable development. The applications of solar energy to electricity generation and heat collection/refrigeration become important, and have received considerable attention [1], [2], [3], [4], [5], [6], [7] and [8]. The solar collector is the heart of these solar energy utilization systems. During the last two decades a number of researchers have worked on developing new and more efficient solar collector or improving existing ones [9], [10] and [11]. For example, the performance of a water-in-glass evacuated tube solar heater is investigated and factors influencing the operation of water-in-glass collector tubes are discussed. The results show the existence of inactive region near the sealed end of the tube which might influence the performance of the collector [12].

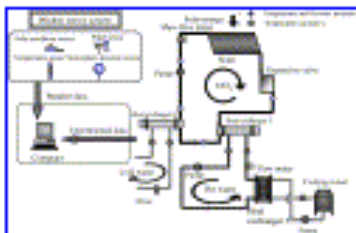
Zhang, XR; Yamaguchi, H. "An experimental study on evacuated tube solar collector using supercritical CO₂" *Applied Thermal Engineering* © Elsevier

- *Methods*

Sample 1st paragraph of an Experimental Set-Up section

2. Experimental set-up

In order to study the CO₂-based collector characteristics well, a closed CO₂ loop including the collector is necessary. The CO₂ loop is designed and it consists of a solar collector array, flow regulating valve (throttling valve), heat exchanging system, and feed pump. The details of the experimental set-up are shown in Fig. 1. The solar collector is used to heat CO₂ fluid contained in heating channels and increase CO₂ temperature. The supercritical CO₂ flows through the valve, which can be used to adjust the CO₂ flow rate for the present study. The CO₂ flowing out of the valve is cooled in the heat exchanging system. After that, it is pumped by the feed pump, back into the higher pressure condition in the solar collector. As shown in Fig. 1 the experimental set-up is a closed cycle of CO₂ fluid, which is mainly comprised of evacuated solar collector arrays, a throttling valve, heat exchangers 1 and 2 (CO₂/water heat exchanger), liquid CO₂ feed pump, and measurement and data acquisition system.




Zhang, XR; Yamaguchi, H. "An experimental study on evacuated tube solar collector using supercritical CO₂" *Applied Thermal Engineering* @ Elsevier


[Display Full Size version of this image \(39K\)](#)

- **Results – what have you found?**

- Tell a clear and easy-to-understand story.
- Include:
 - Main findings
 - Results of the statistical analysis
 - Present only results that are essential to the discussion



Applied Geochemistry
Volume 27, Issue 4, April 2012, Pages 815–824



Determination of mercury biogeochemical fluxes in the remote Mackenzie River Basin, northwest Canada, using speciation of sulfur and organic carbon


Jesse Carrie^a, Gary A. Stern^{a, b}, Hamed Sanei^{a, c}, Robie W. Macdonald^{a, d}, Feiyue Wang^{a, e}

^a Centre for Earth Observation Science, Department of Environment and Geography, University of Manitoba, Winnipeg, MB, Canada R3T 2N2
^b Freshwater Institute, Department of Fisheries and Oceans Canada, Winnipeg, MB, Canada R3T 2N6
^c Geological Survey of Canada, 3303 33rd Street NW, Calgary, AB, Canada T2L 2A7

Supplementary content

Other files (1)

1



Supplementary data 1. Supporting Information shows Figs. S1 and S2 and Table S1.

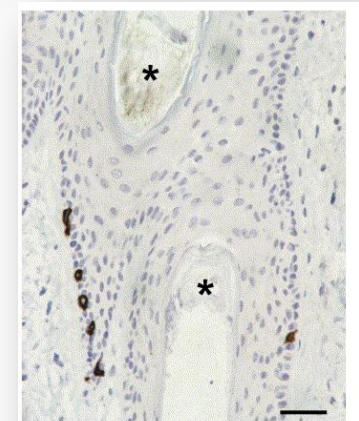
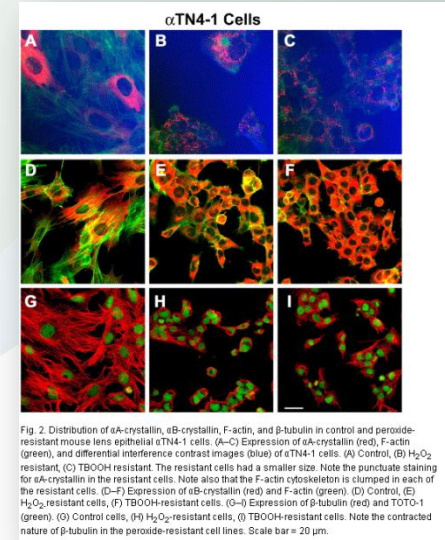
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Related articles

- Coherence between atmospheric teleconnection...
Journal of Great Lakes Research
- Characterization of organic matter in surfac...

- *Results – figures and tables*

- Graphs: un-crowded plots; restrict data sets (symbols to distinguish); well-selected scales; axis labels; label size.
- Tables: succinct.
- Photos: scale marker.
- **Use colour ONLY** when necessary e.g. if different line styles can clarify the meaning, use this instead of colour. Figure should be visible and distinguishable when printed out in black & white.
- Do NOT ‘selectively adjust’ any image to enhance visualization of results.



- Discussion

W Sample 1st paragraph of an Discussion section

5. Discussion

In this section, a mechanism for the production of pulsations is suggested. The results are then compared with those obtained in previous work on pulsating granular materials, and some suggestions for further work are made.

5.1. A mechanism for producing silo quake

Using the background on stick–slip friction in granular materials discussed earlier, one can compare the experimental observations in this study with those in previous studies to qualitatively explain the physical mechanism for stick–slip motion. The dynamic arch which forms in such flows is part of a force chain—that is, a particle contact network through which stresses are transmitted [28]. The arch is fragile, and consequently when the material below it has discharged enough so that the arch is unsupported from below, a slow creep typically observed in adhesive stick–slip flow begins. During this creep, the adhesive friction forces become progressively weaker and weaker, and eventually the arch will break. Once the arch collapses, complete slip occurs, a quake is observed, and a new arch is created. This quake can set up structural vibrations of decaying amplitude that then collapse the newly formed arch; in this manner, a series of self-sustained pulsations results. This is the pulsation process observed in this study, where the discharge rate is *fast* enough (between 1 and 8 cm/s) that it does not affect the f_p unlike in Wensrich's study [8] and [9].



- Conclusion

How the work advances the field from the Sample Conclusion present state of knowledge

6. Conclusion

This study has shown that stick–slip motion generates silo music and silo quake. Silo music is driven by the stick–slip pulsating motion of the granular material during discharge and is associated with a resonance in the air column above the bed. When the pulsating motion disappears, so does the silo music. Over the range of discharge rates studied here (equivalent to average velocities of descent through the tube of 1–8 cm/s), the pulsation frequency was independent of discharge velocity. Both silo music and flow pulsations stopped abruptly when the bed height fell below a critical value. The critical height could be changed by placing an overload in the case of crushed glass, but not in the case of the smooth glass beads. This may be rationalized, although only speculatively at this point, by differences in stress chain behavior.

• Suggest future experiments

Muite, B.K., Quinn, S.F., Sundaresan, S., Rao, K.K.. "Silo music and silo quake: granular flow-induced vibration" *Powder Technology*. © Elsevier

- References

Cite the main findings of your work

- Do not use too many references
- Always ensure you are referencing a specific isolated sentence
- Avoid excessive text
- Avoid excessive text in the same region

References

- [1] B. Hardow, D. Schulze, J. Schwedes, An experimental analysis of the 'silo quaking' phenomenon, Proc. Of the 3rd World Congress on Particle Technology, Brighton, England, 1998.
- [2] S. Jahagirdar, An experimental study of sound emission during granular flow, Department of Chemical Engineering, Indian Institute of Science, Bangalore, India, 1999.
- [3] J. Kmita, Silo as a system of self-induced vibration, ASCE J. Struct. Eng. 111 (1985) 190.
- [4] R. Moriyama, G. Jimbo, Reduction of pulsating wall pressure near the transition point in a bin, Bulk Solids Handl. 8 (1988) 421.
- [5] M. Niedostatkiewicz, J. Tejchman, Experimental and theoretical studies on resonance dynamic effects during silo flow, Powder Handl. Proc. 15 (1) (2003) 36.
- [6] C.E.S. Phillips, Electrical and other properties of sand, Proc. R. Inst. G. B. 19 (1910) 742.
- [7] J. Tejchman, G. Gudehus, Silo-music and silo-quake, experiments and a numerical cosserat approach, Powder Technol. 76 (1993) 201.
- [8] C.M. Wensrich, Experimental behaviour of quaking in tall silos, Powder Technol. 127 (2002) 87.
- [9] C.M. Wensrich, Analytical and Numerical Modeling of Quaking in Tall Silos, PhD thesis, University of Newcastle, Australia (2002).

which

you are
reports or

same

- Follow the style given in the Guide for Authors

Muite, B.K., Quinn, S.F., Sundaresan, S., Rao, K.K.. "Silo music and silo quake: granular flow-induced vibration" *Powder Technology*. © Elsevier

- *Acknowledgements*

Ensure those who helped in the research are recognised

Include individuals who have assisted with your study, including:

- Advisors
- Financial supporters
- Proofreaders
- Suppliers who may have given materials

- *What is a typical paper?*

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

Special attention

- *Authorship*

General principles for who is listed first

- **First Author**

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

- **Corresponding author**

- ✓ Makes intellectual contributions to the data analysis and contributes to data interpretation
- ✓ Reviews each paper draft
- ✓ Must be able to present the results, defend the implications and discuss study limitations

Avoid

- **Ghost Authorship**

- leaving out authors who should be included

- **Gift Authorship**

- including authors who did not contribute significantly

- *Conflicts of interest*

- Conflicts of interest can take many forms:
 - **Direct financial**
 - Employment, stock ownership, grants, patents
 - **Indirect financial**
 - Honoraria, consultancies, mutual fund ownership, expert testimony
 - **Career & intellectual**
 - Promotion, direct rival
 - **Institutional**
 - **Personal belief**

- The proper way to handle potential conflicts of interest is through transparency and disclosure
- At the journal level, this means disclosure of the potential conflict in your cover letter to the journal editor

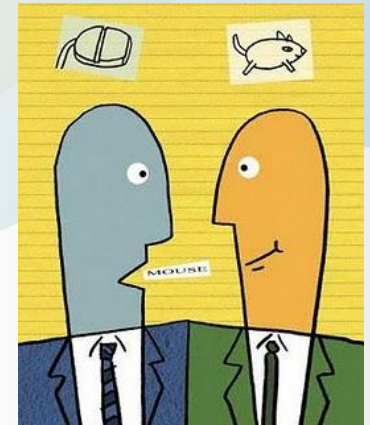
Language does make a difference

“It is quite depressive to think that we are spending millions in grants for people to perform experiments, produce new knowledge, hide this knowledge in a often badly written text and then spend some more millions trying to second guess what the authors really did and found.”

Language

- *Why is language important?*

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



Complaint from an editor:

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

- *Do publishers correct language?*

- No. It is the author's responsibility to make sure his paper is in its best possible form when submitted for publication
- However:
 - Publishers often provide resources for authors who are less familiar with the conventions of international journals. Please check your publishers' author website for more information.
 - Some publishers may perform technical screening prior to peer review.
 - Visit <http://webshop.elsevier.com> for translation and language editing services.

Submission

- *Final checks*

- **Revise before submission**
- Check the manuscript as thoroughly as possible before submission
- Ask colleagues and supervisors to review your manuscript

- Covering letter

Your chance

- Submit
- Mention special
- Note special of interest

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

January 1, 2008

Dear Professor Schmidt,

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

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

Three potential independent reviewers who have excellent expertise in the field of this paper are:

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

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

Sincerely yours,

A. Professor

Final approval from all authors

Explanation of importance of research

Suggested reviewers

Ethical Issues

“Copy from one, it's plagiarism; copy from two, it's research”
Wilson Mizner 1876-1933 Playwright

“One journal reported rejecting 23% of accepted submissions after checking for plagiarism”
Nature 466, 167 (2010) online July 5th

Elsevier deals with over 500 suspected ethics case per year

What is unethical behaviour?

Unethical behaviour can earn rejection and even a ban from publishing in some journals. Unethical behaviour includes:

- Scientific misconduct
 - Falsification of results
- Publishing misconduct
 - Plagiarism
 - Different forms / severities
 - The paper must be original to the authors
 - Duplicate/multiple submission
 - Redundant publication
 - Failure to acknowledge prior research and researchers
 - Inappropriate identification of all co-authors
 - Conflict of interest

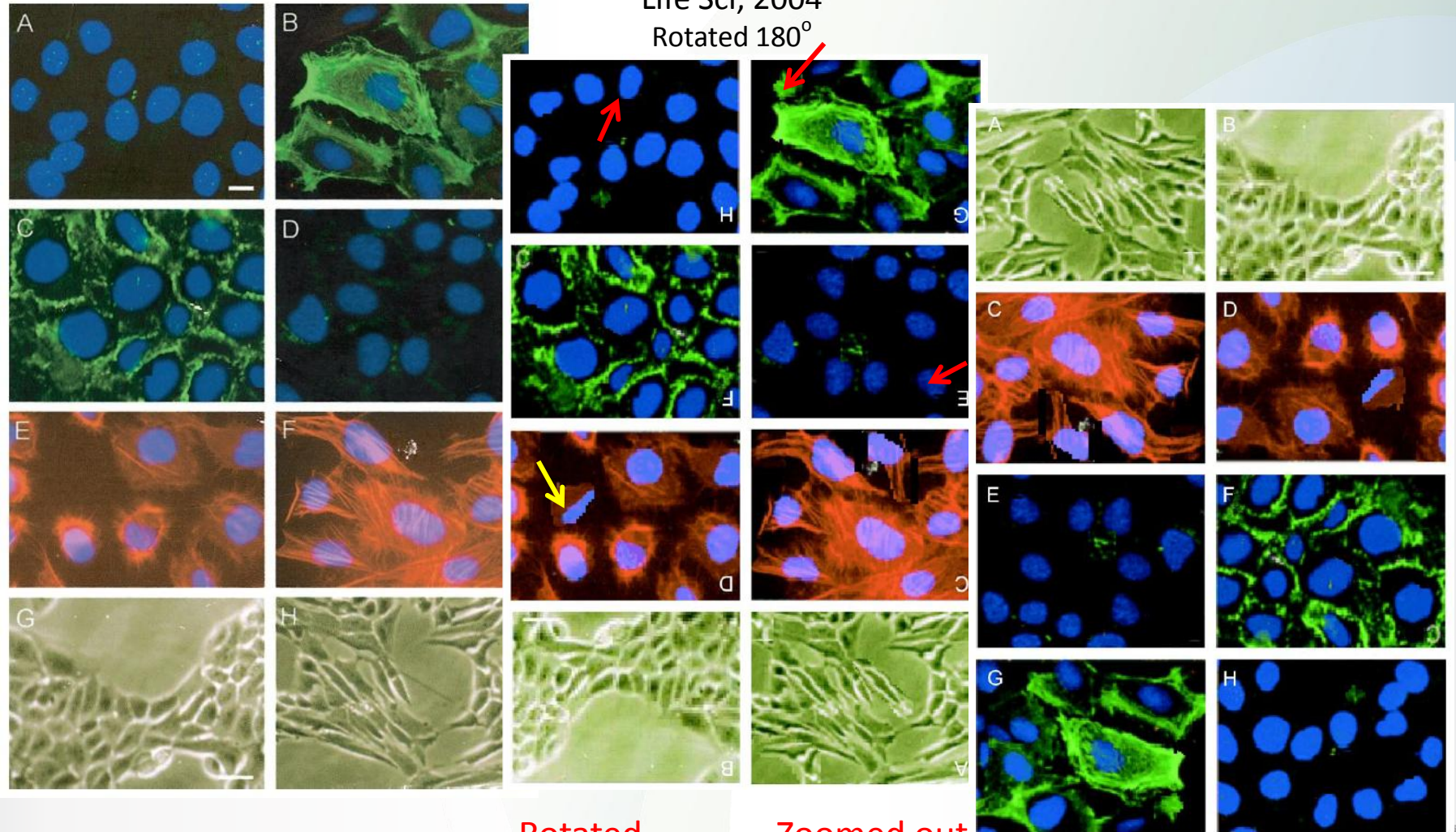
Scientific misconduct

- *Fabrication and falsification*

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

- an example

Life Sci, 2004
Rotated 180°



Rotated
180°

Zoomed out
?!

Publishing misconduct - *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”

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

- Multiple submission

- Multiple submissions waste editor and reviewer time
- The editorial process of your manuscripts will be completely stopped if the duplicated submissions are discovered
- Competing journals constantly exchange information on suspicious papers
- DO NOT send your paper to a second journal until you receive the final decision from the first

- *Duplicate submission*

- 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

“I deeply regret the inconvenience and agony caused to you by my mistake and request and beg for your pardon for the same. As such I am facing lot many difficulties in my personal life and request you not to initiate any further action against me.

I would like to request you that all the correspondence regarding my publications may please be sent to me directly so that I can reply them immediately. To avoid any further controversies, I have decided not to publish any of my work in future.”

A “pharma” author

December 2, 2008

- A Massive Case Of Fraud
Chemical & Engineering News
February 18, 2008
- Journal editors are left reeling as publishers move to rid their archives of scientist's falsified research
William G. Schulz
- A CHEMIST IN INDIA has been found guilty of plagiarizing and/or falsifying more than 70 research papers published in a wide variety of Western scientific journals between 2004 and 2007, according to documents from his university, copies of which were obtained by C&EN. Some journal editors left reeling by the incident say it is one of the most spectacular and outrageous cases of scientific fraud they have ever seen. ...

Mobile News

NEWS MAGAZINE

Home World UK England N. Ireland Scotland Wales Business Politic
Video & Audio Magazine Editors' Blog In Pictures Also in the News Ha

2 March 2011 Last updated at 11:33

Plagiarism: The Ctrl+C, Ctrl+V b

COMMENTS



Many students cross the line under pressure.

A German minister has resigned after copying huge chunks of his doctoral thesis, while the London School of Economics is probing whether Colonel Gaddafi's son lifted chunks and used a ghost writer for his own. So is plagiarism out of control?

It's been a bad week for honest educational endeavour.

The German defence minister has stepped down after being stripped of his 2006 university doctorate thesis for copying large parts of it. The University of Bayreuth had decided Karl-Theodor zu Guttenberg had lifted whole sections without attribution.

Consequences

doi:10.1016/j.sigpro.2005.07.019  Cite or Link Using DOI

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RETRACTED: Matching pursuit-based approach for ultrasonic NDT

N. Ruiz-Reyes^a,  , P. Vera-Candeas^a,  , J. Curpián-Alonso^a,  , J.C. Cuevas-Mata^a


^aElectronics and Telecommunication Engineering Department, University of Jaén, Linares, Spain

^bSignal Theory and Communications Department, University of Alcalá, Alcalá, Madrid, Spain

Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and Publisher. For more information, please visit <http://www.elsevier.com/locate/withdrawalpolicy>.

Reason: This article is virtually identical to the previously published article: "New algorithm for SNR improvement in ultrasonic NDT", *Independent Nondestructive International*, volume 38 (2005) 453 – 458 authored by N. Ruiz-Reyes, P. Vera-Candeas, J. Curpián-Alonso, J.C. Cuevas-Mata-Campos and J.C. Cuevas-Martínez.

 Corresponding author. Tel.: +34 953648554; fax: +34 953648508.

Signal Processing

Volume 45, Issue 7, July 2005, Pages 1153–1161

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 WT technique, the computational cost of the BP algorithm being the main drawback.

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_{in}) is lower than 0dB (the level of echoes from the microstructures is above the level of the echoes).

2. Matching pursuit

Matching pursuit was introduced by Mallat and Zhang [13]. Let us suppose an approximation of the ultrasonic backscattered signals $x[n]$ 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 $x[n]$ is computationally very complex. Matching pursuit is an iterative algorithm that offers sub-optimal solutions for decomposing signals in terms of expansion functions chosen from a dictionary, where ℓ^1 norm is used as the approximation metric because of its mathematical convenience. When 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 residue is

$$r^{(m)}[n] = \begin{cases} x[n] & m=0, \\ r^{(m-1)}[n] + a_{k(m)} g_{k(m)}[n], & m \neq 0, \end{cases} \quad (1)$$

where $a_{k(m)}$ is the weight associated to optimum atom $g_{k(m)}[n]$ 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 $g_{k(m)}[n]$ (and its weight $a_{k(m)}$) at the m th iteration are obtained as follows:

$$g_{k(m)}[n] = \underset{k \in D}{\operatorname{argmax}} |\langle r^{(m-1)}[n] | g_k[n] \rangle|^2 = \underset{k \in D}{\operatorname{argmax}} |a_k^m|^2. \quad (3)$$

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:

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

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STABILITY OF BUTTER OILS PRODUCED FROM SHEEP'S NON-PASTEURIZED AND PASTEURIZED MILK 1

FLAVIA POP North University of Baia Mare,

Department of Chemistry-Biology, 76A Victoriei St., 430122, Baia Mare, Romania, flavia_maries@yahoo.com Received 10 February 2011 Revised

30 March 2011

The physical and chemical characteristics and thermal stability of butter oil produced from non-pasteurized and pasteurized sheep's milk were studied. Thermal stability of samples was estimated by using the accelerated shelf-life testing method. Samples were stored at 50, 60 and 70 °C in the dark and the reaction was monitored by measuring peroxide, thiobarbituric acid and free fatty acid values. The peroxide and thiobarbituric acid values increased as the temperature increased. The increase of acid values of the two samples was not significant. A slight increase in free fatty acid value showed that hydrolytic reactions were not responsible for the deterioration of butter oil samples in thermal stability studies. When compared, butter oil produced from pasteurized sheep's milk has higher thermal stability than butter oil produced from non-pasteurized sheep's milk. Although butter oil produced from non-pasteurized milk was not

1 1,780 words / 48% - CrossCheck
[Ozkanli, O., "Storage stability of butter oils produced from sheep's non-pasteurized and pasteurized milk", Food Chemistry, 2007.](#)

2 325 words / 9% - CrossCheck
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[BALI OLFA, "Storage stability of traditional Tunisian butter oil produced from spontaneous fermentation of cow's milk", International Journal of Dairy Technology, 02/2010.](#)

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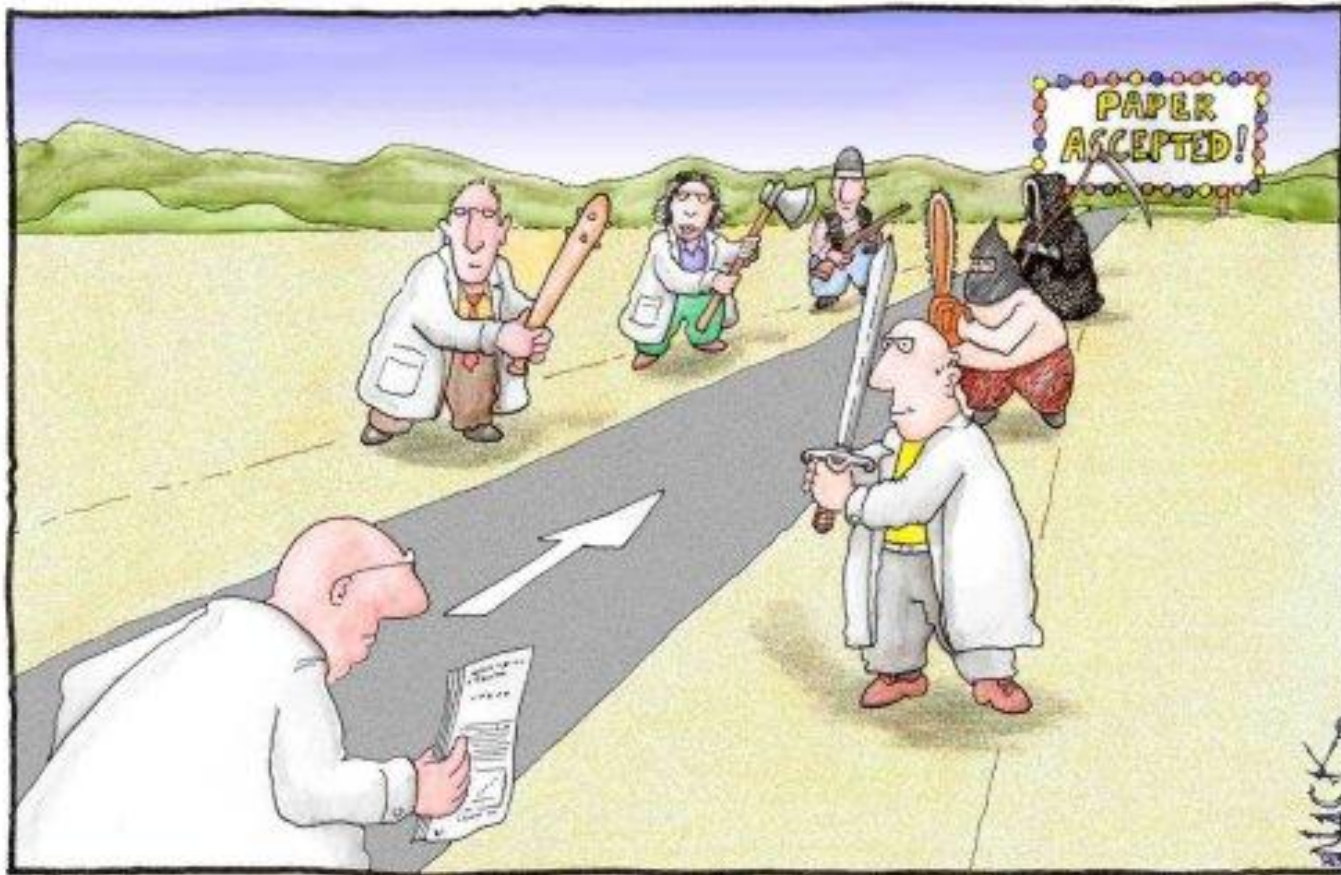
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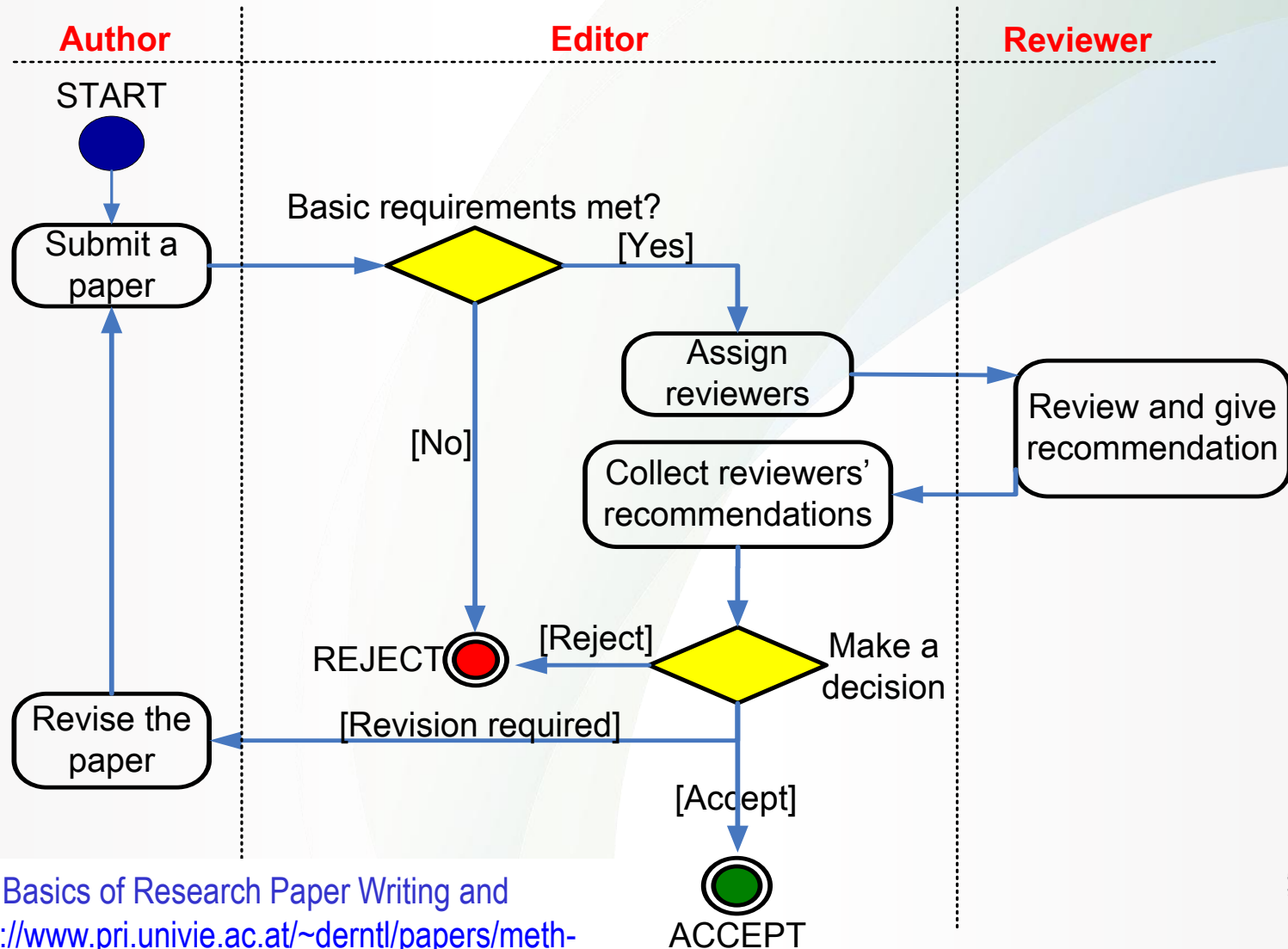
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The review process



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Demystifying the 'black hole'



What do reviewers look for?

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



How to respond to a request to revise your paper

- Be positive – the reviewers think there is merit to your paper, or it would have been rejected
- Prepare a detailed letter of response
- State specifically what changes you have made to the manuscript.
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- Revise the whole manuscript
- Minor revision does NOT guarantee acceptance after revision.

...and if your paper is rejected

- Don't be desperate – it happens to everybody
- Try to understand WHY, consider reviewers advice
- Be self-critical
- If you want to submit to another journal, begin as if you are going to write a new article. Read the Guide for Authors of the new journal, again and again.

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



The Article of the Future



The screenshot shows a Mozilla Firefox browser window displaying an Elsevier article. The article title is "Abrupt environmental and climatic change during the deposition of the Early Permian Haushi limestone, Oman". The page is divided into three main panes:

- Left pane:** Contains an "Outline" section with "Show thumbnails" and "Article top" options, and a "Research highlights" section with an "Abstract" link. Below these are numbered sections: "1. Introduction" and "2. Geological setting", each with a thumbnail image.
- Center pane:** Displays the full-text view of the article, including the journal title "Palaeogeography, Palaeoclimatology, Palaeoecology", volume information, and the article title. Below the title is a list of authors and their affiliations, followed by a "Research highlights" section with bullet points.
- Right pane:** Features a "Sidebar content" section with a dropdown menu set to "Fossil taxa (11)". It includes navigation buttons for "previous" and "next", a "View in article" button, and "Options" for the sidebar. Below this is "Alisporites" information, "PaleoDB information" with a note about additional data, a world map showing collection locations, and specific data for "Fossil taxa" including age range, time interval, country/state, and original ID and collection number.

Feedback

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"Article outline in the left pane helps to easily navigate within an article"

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efficient navigation & browsing

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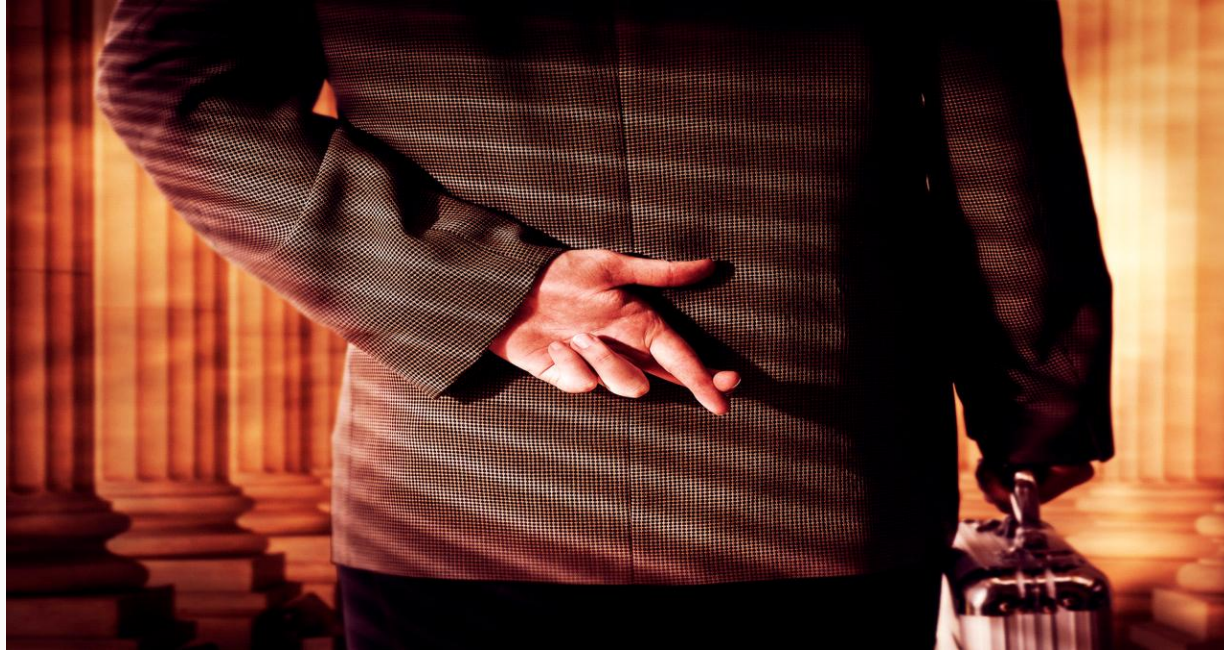
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