Workshop on How to Write Good Journal Papers

TIPS, TRAPS AND TRAVESTIES

Ling Bian, Associate Editor of ISPRS Journal

Ian Dowman, White Elephant

Note

- This presentation was initially prepared for the ISPRS Journal and modified for ISPRS students
- Principles are the same for all journals and for conference papers
- Other journals:
  - ISPRS International Journal of Geo-Information,
  - Photogrammetric Engineering and Remote Sensing
  - International Journal of Remote Sensing
  - International Journal of Digital Earth
  - ……..

Outline

- About the journal
- What is publishable
- Writing a quality manuscript
  - Preparations
  - Article construction
  - Language
  - Technical details
- Revisions and response to reviewers
- Ethical issues
- Conclusions: getting accepted

Review process

•Authors submit manuscripts on-line at the Elsevier website http://ees.elsevier.com/photo

•Reviewers provide comments and made publication recommendations

•Editors make decisions

- Accept
- Minor Revision
- Major Revision
- Reject

What is Publishable?

What is publishable?

- Scientists publish to share with the research community findings that advance our knowledge
  - To publish **new, original** results or methods
  - To publish a **review** of the field or a particular topic

Publishers *do* want quality

WANTED

- Originality
- Significant advances in field
- Appropriate methods, case studies and conclusions
- Readability
- Studies that meet ethical standards

NOT WANTED

- Duplications
- Reports of no scientific interest
- Work out of date
- Inappropriate/incomplete methods or conclusions
- Studies with insufficient data

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

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

To keep the quality

- Editors may reject papers that are "**nothing wrong, but nothing new**", including papers that are well written and from well established scholars in the field

- Editors encourage papers that present **innovative methods or innovative use of existing methods**, although the writing may need some help

Can I publish this?

- Have you done something new and interesting?
- Have you checked the latest results in the field?
- Is the work directly related to a current hot topic?
- Are the methods/measurements valid and reliable?
- Have the findings and their significance verified?
- Can you describe the scope and limitations of the methods?
- Do your findings tell a nice story or is the story incomplete?

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

What’s New? and So What?

Writing a quality manuscript

- Preparations

Format

- Consult and apply the list of guidelines in the “Guide for Authors” http://ees.elsevier.com/photo
- Ensure that you use the correct:
  - Layout
  - Section lengths (stick to word limits)
  - Nomenclature, abbreviations and spellings (British vs. American)
  - Reference format
  - Number/type of figures and tables
  - Statistics

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

All editors hate wasting time on poorly prepared manuscripts

It is a sign of disrespect to both reviewers and editors

It will delay the process of your paper

Writing a quality manuscript

- Article construction

Article structure

- Title
- Authors
- Abstract
- Keywords

Need to be accurate and informative for effective indexing and searching

- Main text
  - Introduction
  - Methodology
  - Case Studies/Results
  - Discussion/Conclusions

Each has a distinct function

- Acknowledgements
- References
- Supplementary material

Title

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

DO	DON'T
Convey main findings of research	Use unnecessary jargon
Be specific	Use uncommon abbreviations
Be concise	Use ambiguous terms
Be complete	Use unnecessary detail
Attract readers	Focus on part of the content only

Title

Three methodologies (K-Nearest Neighbor, Spectral Angle Mapper, and Support Vector Machines) to evaluate the accuracy of classifying algae populations in the presence of varying pollution gradients

Comparison of three methods for classifying algae populations under varying pollution gradients

Abstract

Types:

Informative abstracts summarize the article based on the paper structure (problem, methods, case studies, conclusions), but without section headings

Indicative (descriptive) abstracts outline the topics covered in a piece of writing so the reader can decide whether or not to read on. Often used in review articles and conference reports

Abstract

The quality of an abstract will strongly influence the editor's decision

A good abstract:

- Is precise and honest
- Can stand alone
- Uses no technical jargon
- Is brief and specific
- Minimizes the use of abbreviations
- Cites no references

Use the abstract to "sell" your article

Traps to Avoid in an Abstract

Example:

"This paper presents an innovative set of tools developed to support a methodology to design and upgrade image analysis systems (IAS). Previous work by Grey (2004), Lacey (2001) and others …This paper illustrates the merits of these tools to make the innovative methodology of interest to everyone involved in IAS and will become the new design standard worldwide."

Better to avoid:

- Abbreviations, references (save for the introduction), and exaggerated conclusions

Keywords

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

- A maximum of 5 keywords
- Keywords should be specific
- Avoid general and multiple terms (avoid, for example, "and", "of")
- Avoid uncommon abbreviations

Keywords

Urban-trees extraction from Quickbird imagery using multiscale *spectex*-filtering and non-parametric classification

Yashon O. Ouma, R. Tateishi

Keywords: urban-trees, multiscale texture, multiscale spectex filtering, non-parametric classification

Bad keywords: methodology, texture, urban, analysis

Introduction

Provide the necessary background information and claim the originality of your work

- Statement of the problems that will be addressed by the proposed/used methodology
- Objective - to use innovative methods (or the innovative use of existing methods) to solve the problems - identify the originality of your work
- Brief description of the data, study area, and experiments
- The significance of your work

Introduction

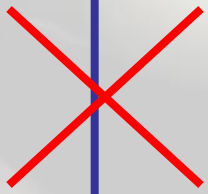
DO

- "Set the scene"
- Outline "the problem"
- Identify the originality of your work
- Ensure that the literature cited is balanced, up to date, and relevant
- Define any non-standard abbreviations and jargon

Introduction

DON'T

- Write an extensive review of the field
- Set objectives to solve trivial technical problems
- Cite disproportionately your own work or work that supports your findings while ignoring contradictory studies or work by competitors
- Overuse terms like "novel" and "for the first time"



Introduction

Urban-trees extraction from Quickbird imagery using multiscale *spectex*-filtering and non-parametric classification

Yashon O. Ouma, R. Tateishi

In high spatial resolution imagery, it is logical to organize groups of adjacent pixels into objects and treat each of the objects as a minimum classification unit. … One of the promising techniques is multi-scale filtering. Filtering may be defined as an approach to … The two main difficulties of image filtering are its under-constrained nature (LaValle and Hutchinson, 1995) and the lack of a definition of the "correct" filtering algorithm with respect to the scene features and sensor resolution (Horn, 1986). The objective of this research is to develop and test a multiscale spectex-filtering method. … Results are compared to those using parametric (maximum-likelihood) and non-parametric (decision-tree) classification techniques.

Introduction

At present, direct tools for retrieving this index are rare. Besides a c++ program (Smith et al.,2006) from Landsat images, in which the inputting file format should be .raw, most image-process software, even Matlab which is good at computing matrix, is used to calculate LST with intricate steps. In order to simplify the operating processes, a direct and systemic model is necessary. Using the Spatial Model Maker tool of ERDAS Imagine software, a spatio-temporal model is designed in this study, which can be used to obtain the index directly from Landsat file of .img format.

Two problems here: (1) set the objective to solve a technical inconvenience, and (2) lack originality

Methodology

The Methodology section should be the bulk of the paper and it must provide sufficient information so that a knowledgeable reader can reproduce the experiment

- This section can include algorithms, statistics, and others
- It also includes Case studies or experiments
- Equations, algorithms, flow charts and figures/tables are often included in the methodology section for descriptive purposes
- Use present tense for methodology-type papers

Methodology

The methodology section can be generally divided into several specific parts

For application oriented papers

- Study area, data, data pre-processing
- New algorithms/methods or application of existing ones

For papers with new developments

- New algorithms/methods
- Experiments

Methodology

Justify the processes applied to the data

To avoid biases in the measurements due to particular crop architectures (such as sugar beet or maize in early growth stages), the measurements were carried out in a systematic and standardized way; that is, the sensor was placed alternately in the middle of the row and between two rows. Moreover below canopy readings have been taken close to the soil with appropriate distances to the leaves.

Methodology

Separate what is your own creation from what is adopted from published work

Eq. (11) is used to convert the digital number (DN) of Landsat TM/ETM+ thermal infrared spectrum band into spectral radiance (Landsat Project Science Office, 2001) …

Convert the spectral radiance to at-sensor brightness temperature with Eq. (14) (Landsat Project Science Office, 2001) …

According to Qin et al's (2001) mono-window algorithm, the LST can be computed directly and quickly in this model …

Graphics

Figures and tables are **the most effective way to present results**

BUT:

- Captions should be able to stand alone, such that the figures and tables are understandable without the need to read the manuscript
- Captions should not contain extensive experimental details that can be found in the methodology section
- The data represented should be easy to interpret
- Colour should only be used when necessary

Graphics

Table 2. Colour codes and notations of the soil layers

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

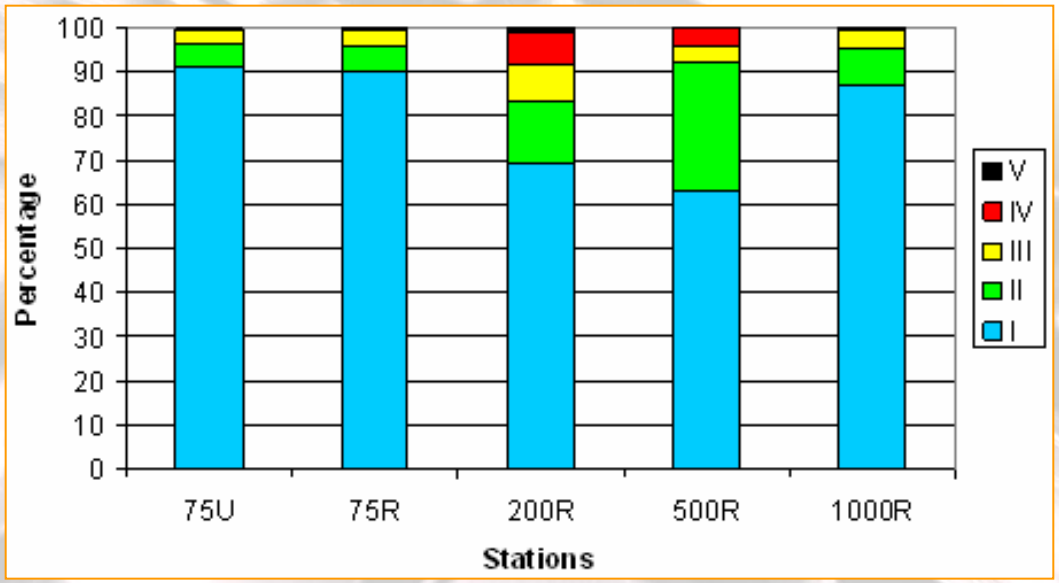
Illustrations should only be used to present essential data

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

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

Summarize results in the text where possible

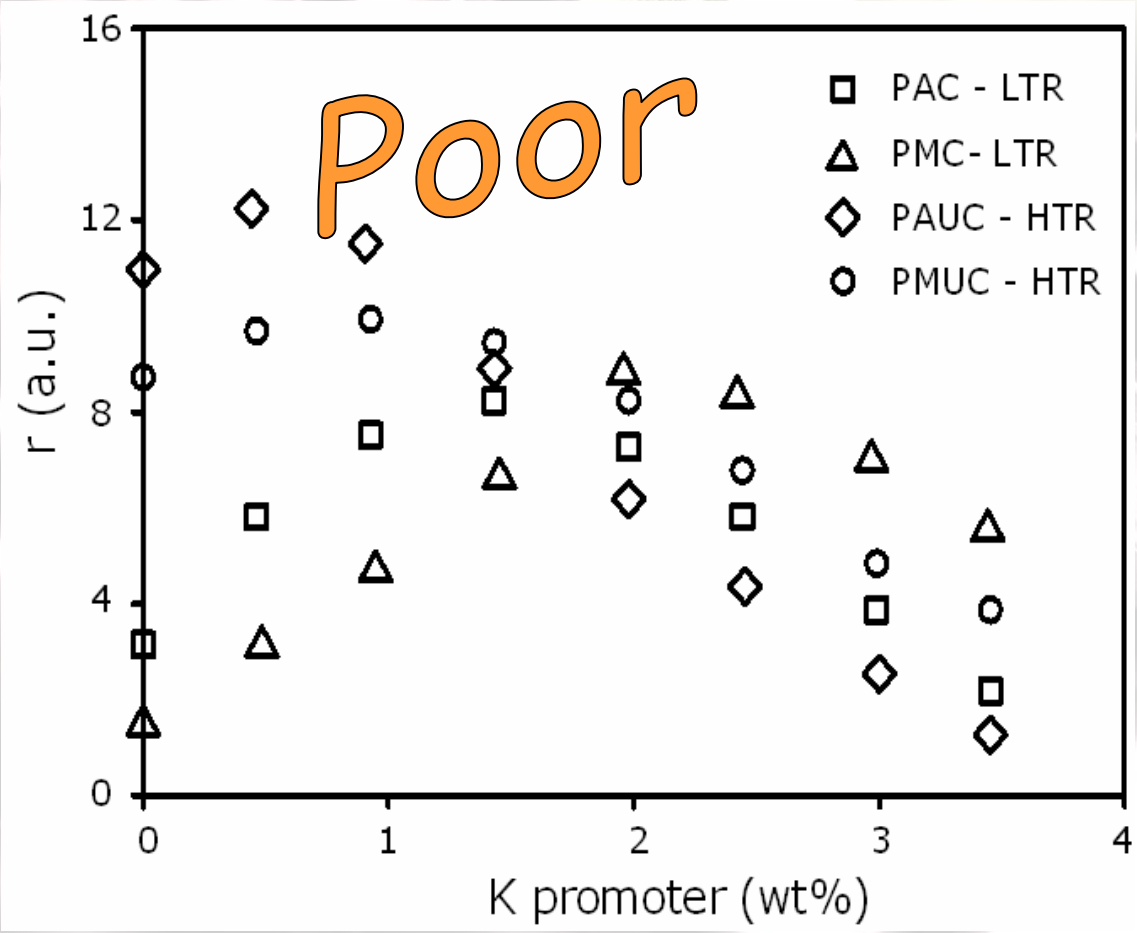
Graphics



The figure and table show the same information, but the table is more direct and clear

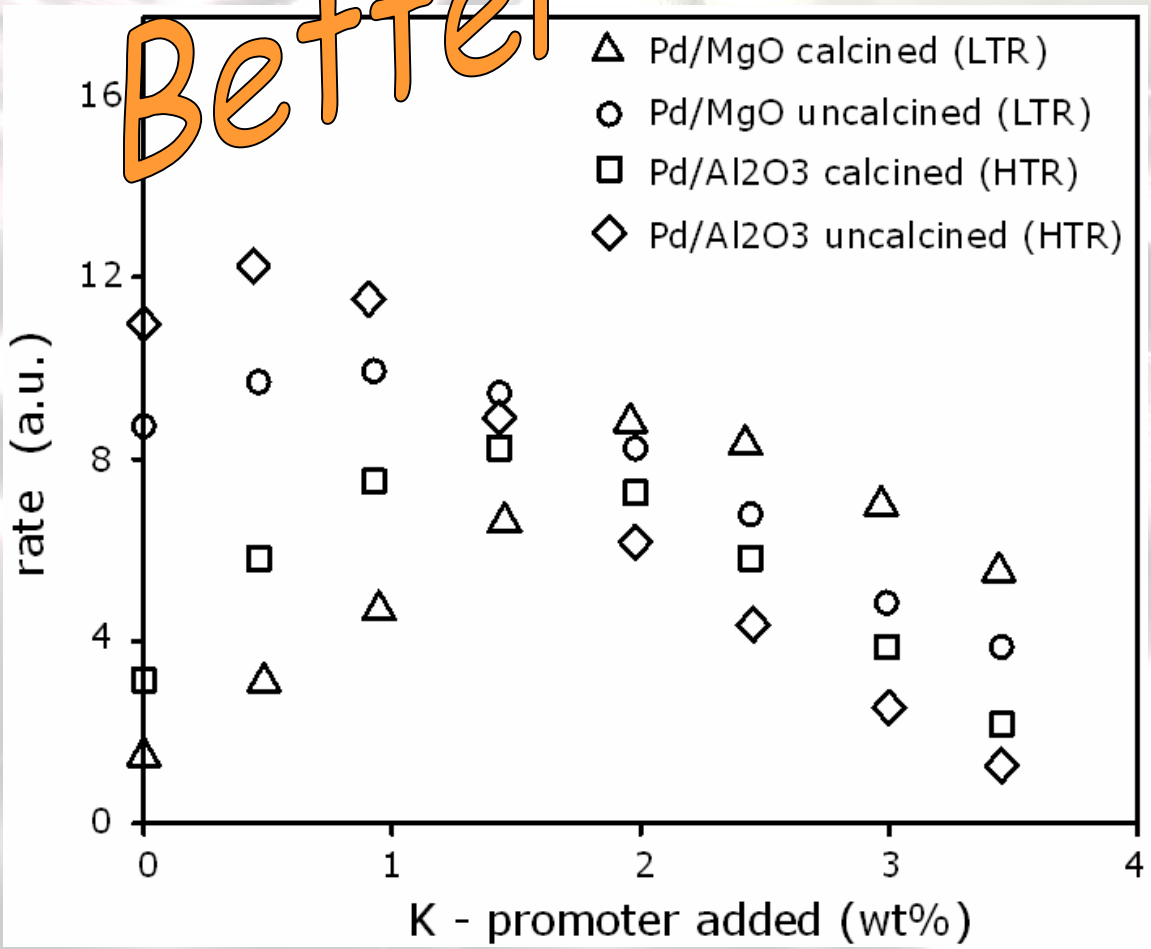
	ECOLOGICAL GROUP				
Station	**I**	**II**	**III**	**IV**	**V**
75U	91.3	5.3	3.2	0.2	0.0
75R	89.8	6.1	3.6	0.5	0.0
200R	69.3	14.2	8.6	6.8	1.1
500R	63.0	29.5	3.4	4.2	0.0
1000R	86.7	8.5	4.5	0.2	0.0

Graphics



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

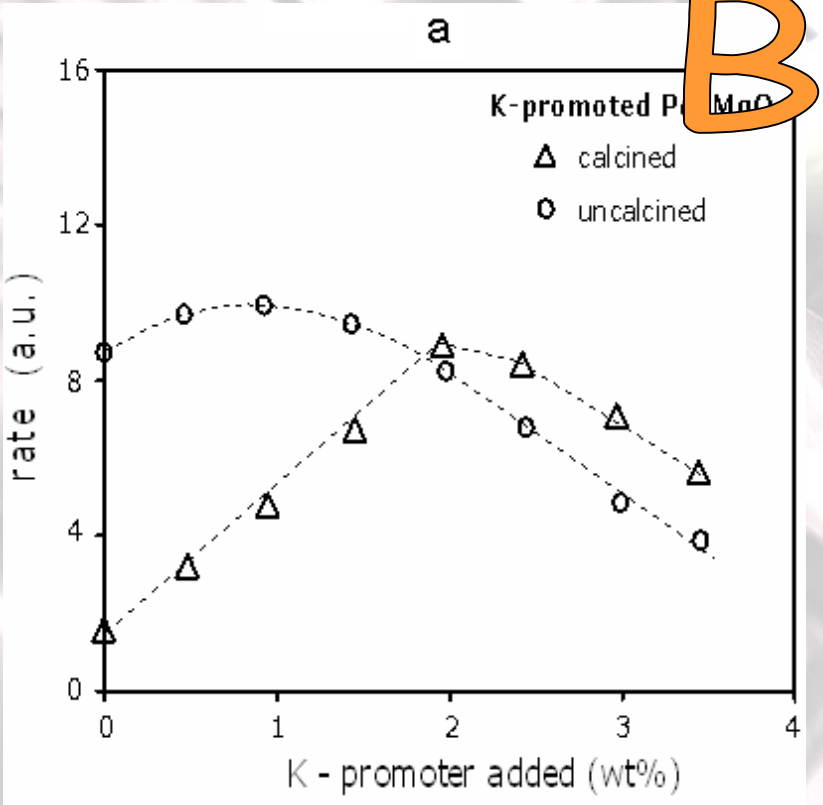
Graphics

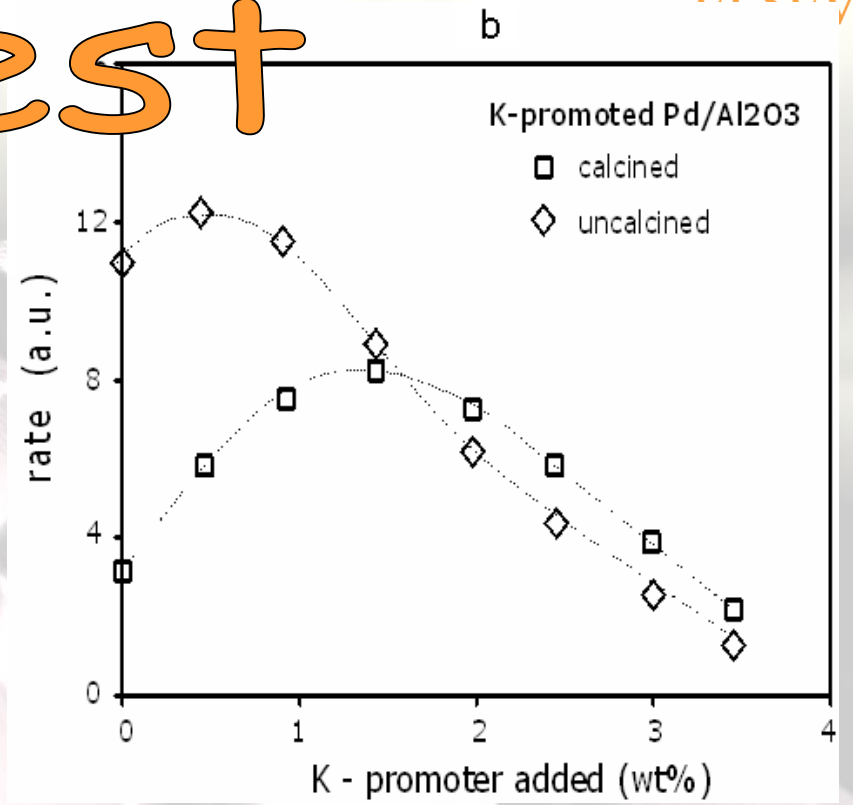


- **Legend is well defined but there is still too much data and no trendlines**

Graphics

Best





- Legend is clear
- data are better organized
- trend lines are present

Statistics

- Indicate the statistical tests used with all relevant parameters
- **The word "significant" should only be used to describe "statistically significant differences"**

Discussion

The discussion and conclusions are usually lumped into one section

Describe

- Were the methods successful?
- How did the findings relate to those of other studies?
- Were there limitations of the study?

Avoid

- Making “grand statements” that are not supported by the methods or the results of the case study
  Example: “This novel algorithm will massively increase the effectiveness of all image processing”
- Introducing new results or terms

Conclusions

Put your study into **CONTEXT**

Describe how it represents an advance in the field

Suggest future applications

Suggest areas of future research

BUT

Avoid repetition with other sections

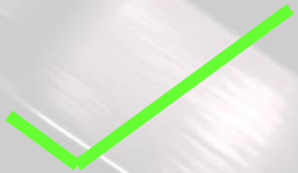
Avoid being overly speculative

Don’t over-emphasize the impact of your study

Conclusions

In this study, multiscale texture is integrated into … multiscale spectex-filtering method for urban-trees detection from Quickbird imagery. Filtering the spectral feature space enhances the contrast between the textons, while the diffusion of the spectral-texture feature space smoothes the textured areas so that the relative contrast of real features increases. …

However, it is noted from this study that the non-linear filtering approach may not be readily applicable in the remote sensing field due to the following: (i) … and (ii)…



Conclusions

Better to avoid:

- Downplaying negative results and deeming them significant when there is no proof, making statements based on personal opinion without scientific support

Example:

"Although the analysis did not provide a reasonable level of significance, we believe that the methodology is valid towards the design of a new image process system. In fact, we argue that these methods could be adopted to the design of the new system for all images."

Acknowledgements

Acknowledge anyone who has helped you with the study, including:

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

State why people have been acknowledged and ask their permission

Acknowledge sources of funding, including any grant or reference numbers

References

Check the Guide for Authors for the correct format

Check

- Spelling of author names
- Punctuation and space
- Capital and lower case
- Other reference requirements

Avoid

- Personal communications, unpublished observations and submitted manuscripts not yet accepted
- Citing articles published only in the local language
- Excessive self-citation

Writing a quality manuscript

- Language

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

Arnout Jacobs, Elsevier Publishing

Thus, both the science and the language need to be sound

The three “C”s

Good writing possesses the following three “C”s:

- **Clarity**
- **Conciseness**
- **Correctness (accuracy)**

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

Know the enemy

Good writing avoids the following traps:

- **Repetition**
- **Redundancy**
- **Ambiguity**
- **Exaggeration**

These are common annoyances for editors

Writing a quality manuscript

- Technical details

Quality criteria

Please rate the manuscript on a scale of 1 to 5 (1=very poor, 2=poor, 3=acceptable, 4=good, 5=excellent) with respect to the following items.

- Is the subject appropriate for publication in ISPRS Journal (conformance to Aims and Scope)?
- Is the paper technically correct?
- Is this a new and innovative contribution (algorithm, method, application, system etc.)?
- Is it an original, to a large extent previously unpublished contribution?
- What is the paper's contribution/significance to the field?
- What is the quality of the experimental results / tests?

Quality criteria

- Is the paper well organised, with material clearly presented?
- Is the review extensive enough and well structured (for Review and Tutorial papers)?
- Is the review objective and critical (for Review and Tutorial papers)?
- Is the length satisfactory?
- Does the title clearly reflect the content?
- Is the abstract informative?
- Is prior work on the paper's topic properly quoted and to a sufficient extent?
- Are interpretations and conclusions sound and justified?

Quality criteria

- Are the references adequate / all necessary?
- Are the illustrations and tables all necessary and informative?
- Are equations correct and adequate/all necessary, are the used symbols all explained?
- Is the text grammatically and linguistically correct?
- What is the overall value of this paper for the Journal readers?

Revisions and Response to Reviewers

Post-referee revision

ELSEVIER

Carefully study the reviewers' comments and prepare a detailed letter of response

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

Post-referee revision

The reviewer is clearly ignorant of the work of Bonifaci et al. (2008) showing that the …

Thank you for your comment. However, we feel that the assumption in our model is supported by recent work by Bonifaci et al. (2008), who showed that the ...

Post-referee revision

Clearly differentiate responses from reviewers' comments by using a different font style

Reviewer's Comments: It would also be good to acknowledge that geographic routing as you described is not a complete routing solution for wireless networks, except for applications that address a region rather than a particular node. …

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

Accepting rejection

Don’t take it personally!

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

Accepting rejection

- **Suggested strategy for submitting elsewhere:**

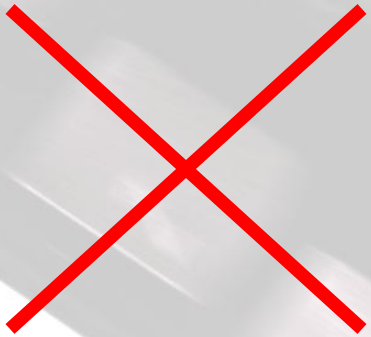
- In your cover letter, declare that the paper was rejected and name the journal
- Include the referees' reports and show how each comment has been addressed
- Explain why you are submitting the paper to this journal; is it a more appropriate journal?

Ethical Issues

Unethical behavior can earn rejection and even a ban from publishing in the journal

Unethical behavior includes:

- Multiple submissions
- Redundant publications
- Plagiarism
- Data fabrication and falsification
- Improper author contribution



Multiple submissions

Competing journals constantly exchange information on suspicious papers

Multiple submissions may end with multiple rejections and being banned from multiple journals

You should not send your manuscripts to a second journal UNTIL you receive a reject decision of the first journal

DON'T DO IT!!

Redundant publication

- 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*

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

For more information on plagiarism and self-plagiarism, please see: http://facpub.stjohns.edu/~roigm/plagiarism/

Plagiarism

"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

Unacceptable paraphrasing, even with correct citation, is considered plagiarism

Paraphrasing

- **Original (**Ouma and Tateishi, 2008**):**

  Filtering the spectral feature space enhances the contrast between the *textons*.

Restatement:

Ouma and Tateishi (2008) showed that filtering the spectral feature space enhances the contrast between the *textons*.

Paraphrasing

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

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

- **Restatement:**

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

Ronald K. Gratz. *Using Other's Words and Ideas*.
Department of Biological Sciences, Michigan Technological University

Data fabrication and falsification

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

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

G.C. Lichtenberg (1742–1799)

Improper author contribution

Authorship credit should be based on

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 conditions 1, 2, and 3. Those who have participated in certain substantive aspects of the research project should be acknowledged or listed as contributors. Check the Guide for Authors and ICMJE guidelines: http://www.icmje.org/

Conclusion: Getting Accepted

What gets you accepted?

Attention to details

Check and double check your work

Consider the reviews

English must be as good as possible

Presentation is important

Take your time with revision

Acknowledge those who have helped you

New, original and previously unpublished

Critically evaluate your own manuscript

Ethical rules must be obeyed

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