How to write a scientific paper?

Felix Müller

University of Kiel
Institute for Natural Resourse Conservation
Olshausenstrasse 75
D 24118 Kiel
fmueller@ecology.uni-kiel.de

blog.edulify.com

Early motivation

Interesting readings

www.buzzle.com/img/
articleImages/57328-0.jpg

Organized literature overview

http://www.google.de/imgres?imgurl=http://cte.
uwaterloo.ca/media/images/generic/Responding

Creative writing - feeling success

http://www.fastweb.com/nfs/fastweb/attachment_images/0000/1588/iStock_
000002981814XSmall-college-search-panic_crop380w.JPG?1240344844

Happy end

http://blogs.spokenword.ac.uk/
deargreen/files/2009/04/graduation.png

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

How to write a scientific paper?

1. **Why do we (have to) publish?**
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

Why do we (have to) publish?

- Participating in scientific communication
- Creating and demonstrating new knowledge
- Providing new material for scientific discussion
- Participate in academic progress
- Documentation of scientific processes and their results

The author's perspective

Motivations to publish:

- Dissemination (54% 1st choice)
- Career prospects (20% 1st choice)
- Improved funding (13% 1st choice)
- Ego (9% 1st choice)
- Patent protection (4% 1st choice)
- Other (5% 1st choice)

Bryan Coles (ed.) The STM Information System in the UK, BL Report 6123, Royal Society, BL, ALPSP, 1993

The author's perspective

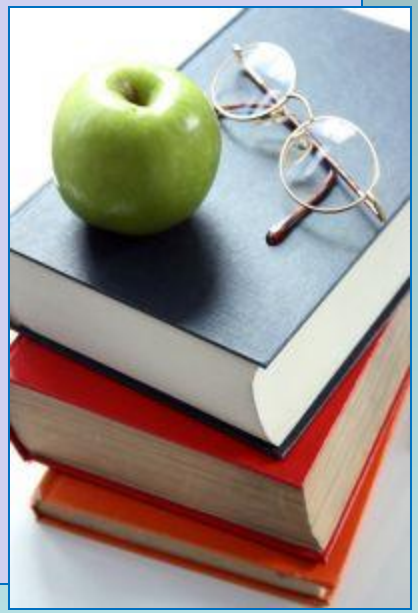
Motivations to publish:

- Papers as indicators for success in scientific evaluation
- Papers as background information for funding in research institutions
- Papers as criteria for project support in funding agencies
- Cumulative PhD theses need 3-4-5 papers in peer-reviewed journals
- Papers as media for cooperation

The author's perspective

The reader's perspective

- Authoritative high quality articles
- Ease of access
- Rapid delivery
- Convenient format
- Linking of information
- Low or no cost
- Up-to-date information
- Comprehensible, easy to read
- Short and compact information



Author versus Reader: different priorities

- **Author behaviour**
  - Wants to publish more
  - Peer review essential
  - Other journal functions crucial
  - Wider dissemination
  - High level of distribution

- **Reader behaviour**
  - Wants integrated systems
  - Browsing is crucial
  - Quality information important
  - Wants to read less

Audience:

Papers are written to:

- **Editors:** generalists, interested in good stories with high scientific impact fitting their journal´s topics, scan papers quickly
- **Reviewers:** experts, but not necessarily in your absolute speciality; voluntary; short of time
- **Readers:** speciality depending on the journal, generally not experts in your specific field

ProSciencia
Scientific Consultants
Business Consultants
Training Consultants

Audience:

Always remember:

Those people deciding on the acceptance of your paper (editors, reviewers) are generally very busy and have to read a lot of papers in little time!

Therefore: **Keep things well organized and easy to understand! (KISS rule: Keep it Short and Simple)**

They will like your paper much better, if they can understand it quickly!

ProSciencia
Scientific Consultants
Business Consultants
Training Consultants

Never forget:

You are writing the paper for the reader!!!

How to write a scientific paper?

1. Why do we (have to) publish?
2. **Which types of publications are possible?**
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

Types of publications

- Conference abstracts
- Extended abstracts
- Reports
- Theses (e.g. PhD thesis)
- Proceedings
- Books (monographs, textbooks)
- Magazines
- Journals (peer-reviewed, non-reviewed)

Types of journals

- National vs. international
- Peer-reviewed vs. non-reviewed
- Disciplinary vs. interdisciplinary
- Commercial vs. society journal
- Commercial vs. open access journals
- Research vs. review journals
- Printed journals vs. online journals

Indicators of journal performance

- Citation index
  - Tracking citations between journals
- Journal impact factor
  - Indicates the utility of a paper / a journal

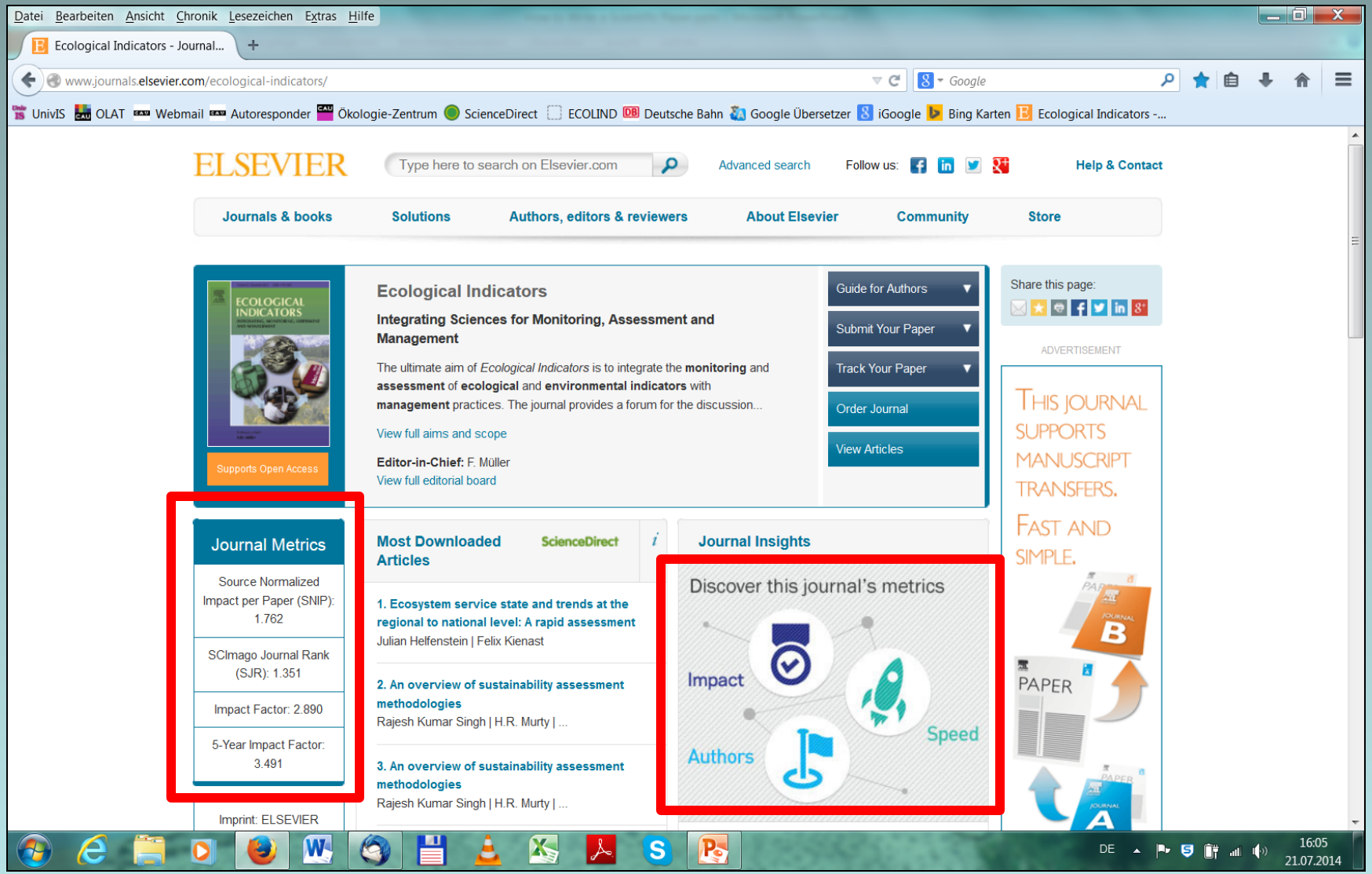
Impact factor = papers cited / papers published

IF = 1 = 100 / 100 IF = 2 = 200/100

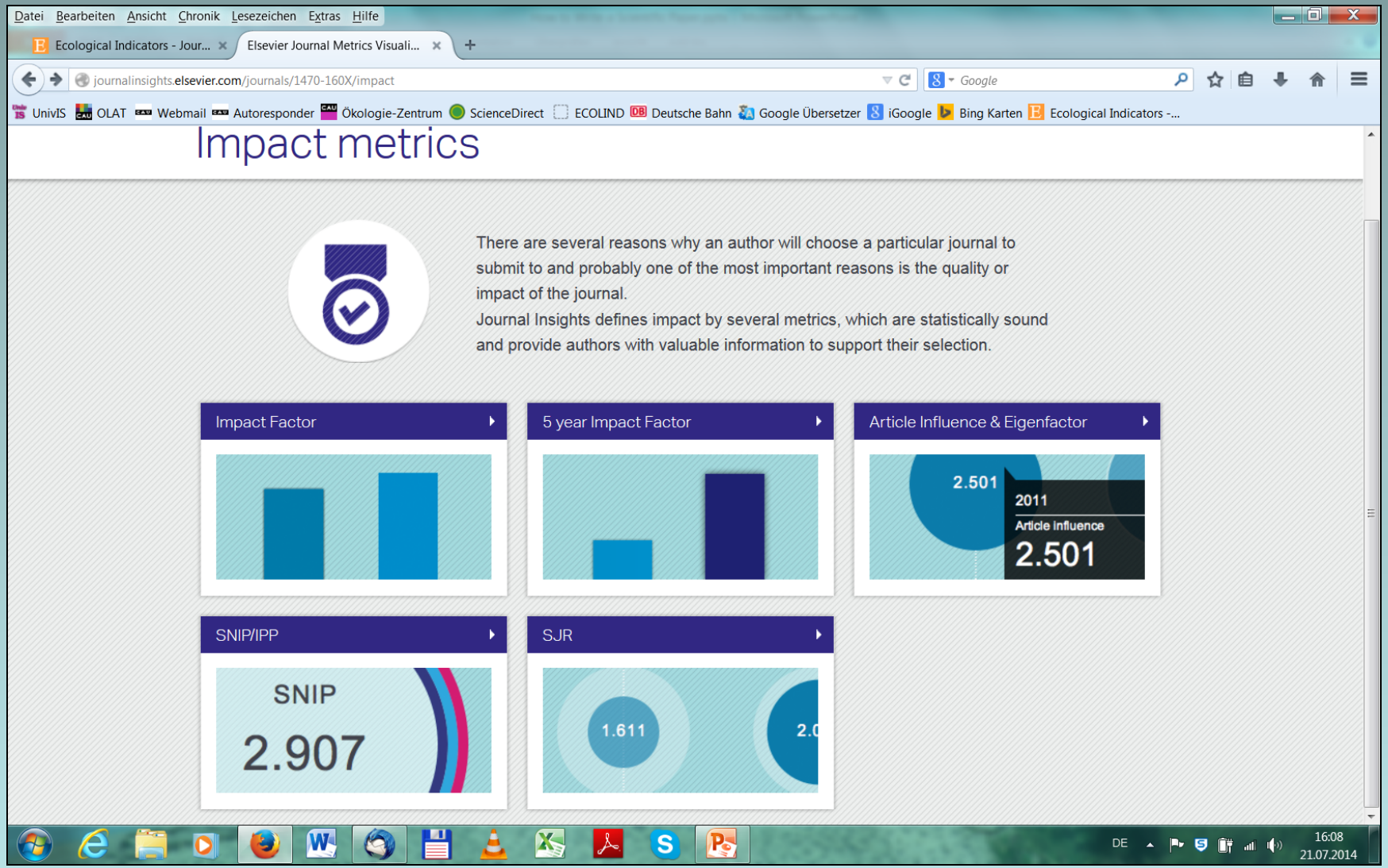
- Shows the prominence of a journal

- Nature	~ 30
- Science	~ 25
- Landscape Ecology	~ 2,1
- Landscape and Urban Planning	~ 1,6
- Ecological Indicators	~ 1,9 → 3,1 → 3,0

Indicators of journal performance



Indicators of journal performance



Indicators of journal performance

Problems:

- Impact factor does not tell anything about the quality
- Only certain journals are investigated (observation procedure)
- Book publications mostly do not count (although important)
- Impact factors differ enormously in different disciplines
- Accounting period: only two years
- Is used by universities as indicator of research efficiency
- May be a factor for employment decisions

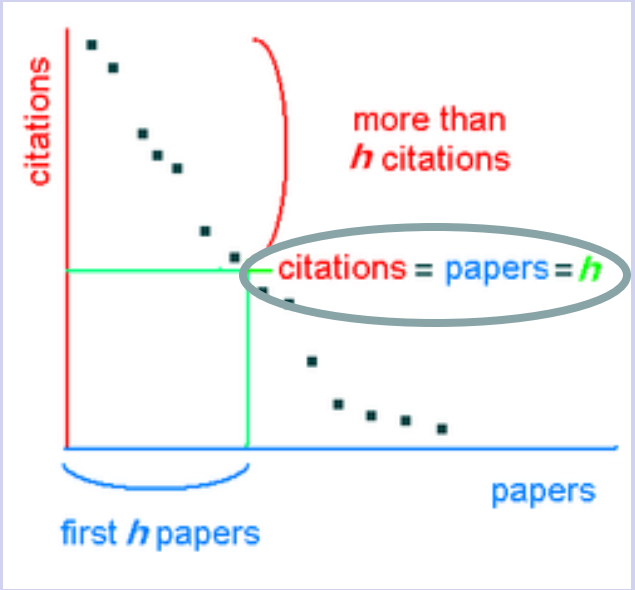
→ Journals with high impact factors have high competition, limited space and high rejection rates

How to find your own „values“?

- ***Scopus*** : Search for your name in the Author Search. In the list of authors that comes up in the search results, click on Details. The Details page provides both the times cited and the h-index, with links to graphs and tables.
- ***Web of Science*** : Register for ResearcherID to get your bibliometric data.
- ***Google Scholar*** : Use the Author name field in the Advanced Search Form to search for yourself. *Google Scholar* only provides citation counts for individual articles, not an author's entire career.

Indicators of author‘s performance

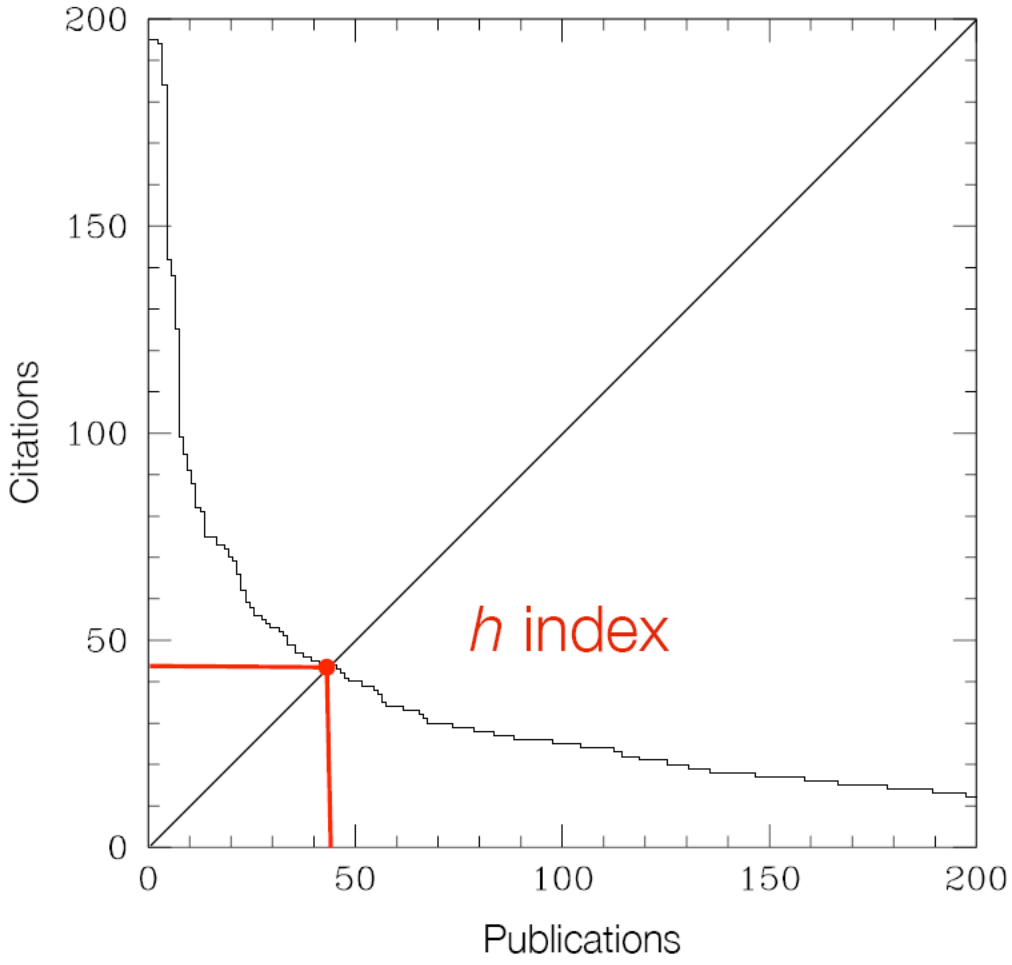
- Biobliometrics
- Number of citations
- Citation index
- H-index



- index H, defined as the number of papers with a citation number higher or equal to h, used as an index to characterize the scientific output of a researcher."

http://www.eso.org/sci/libraries/articles/SWYA/SWYA2_telbib.pdf

h-index

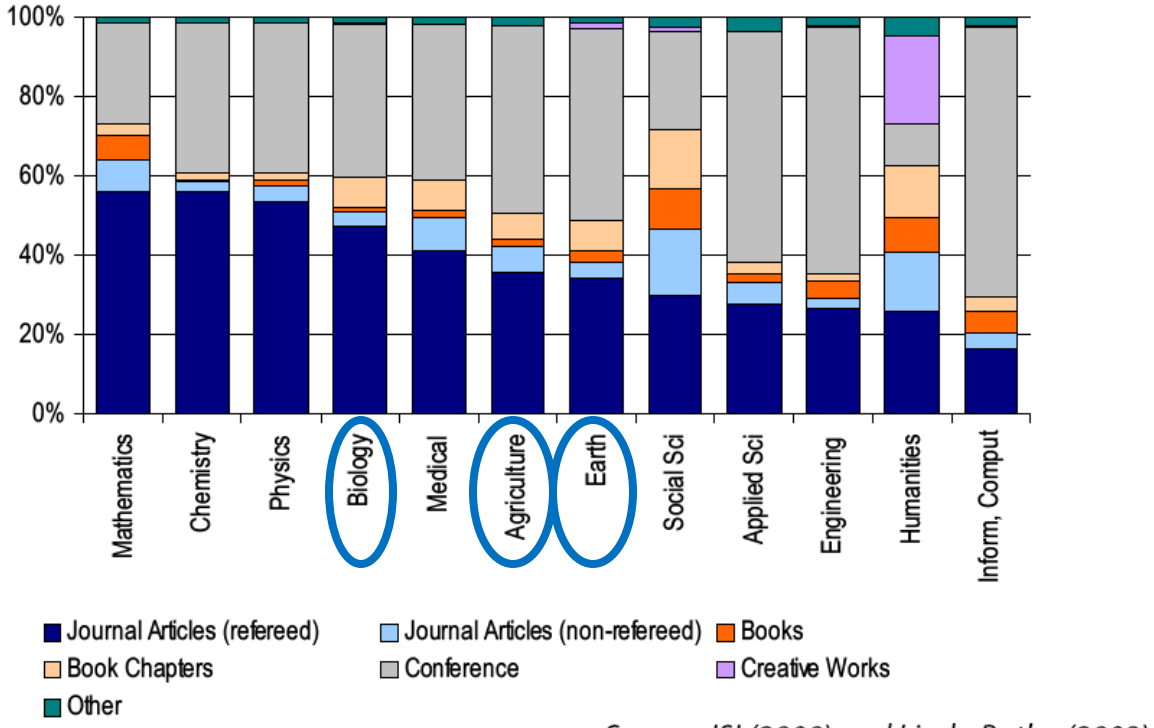


h papers with
at least
h citations each

(Hirsch 2005)

Extending bibliometrics

Academic output by field of research and publication type



Source: ISI (2000) and Linda Butler (2003)

http://www3.iam.metu.edu.tr/iam/images/2/21/Wolfgangbibliometrics.pdf

Types of papers

- Research papers
- Review papers (state-of-the-art)
- Case study papers (short note)
- Discussion papers (e.g. ideas or view points)
- Short note papers/short communication
- Book reviews
- Letters to the editor
- Editorial

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. **How to prepare the publication?**
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

Getting prepared

- Identification of the focal topic
- Definition of article type
- Appointment of the authors
- Develop your publication plan
- Define the objectives (do this very clearly)
- Ask three questions which the paper should answer
- Define the working title

Overall publication plan

Working title	Journal	Authors	Start	End	Status
A…	1	me	06/09	12/09	started
B…	2	me and Fritz	10/09	04/10	Data analysis
C…	3	me and Kate and Ruth	12/09	06/10	ideas
D…	4	me and Hans and Fritz	04/10	12/10	-
E…	5	me	08/10	12/10	-

Paper publication plan

Working title	Step	Authors	Start	End	Status
A…	1	…	06/09	12/09	started
	2	…	…	…	…
	3	…			
	4	…			
	5	…			

Getting prepared

- **Define the objectives (do this very clearly)**
  - Objectives will guide the reader
  - Without objectives the reader is lost
  - Objectives are the guidelines of the paper‘s structure
  - Objectives are carrying the message of the paper
  - Derive the research questions, better narrow than broad

Getting prepared

- **Identification of the potential audience**
  - Colleagues
  - Scientific community
  - Students
  - Practitioners and managers
  - Policy makers
  - Spatial extent: national or international

Getting prepared

- **Identification of a suitable journal**
  - Investigate key literature in your field
  - Ask colleagues
  - Consider the preferences of your audience
  - Take into account the production time of the journal
  - Consider the reputation of the journal (Impact factor)
  - Study the guidelines for authors and compare the aims and scopes with your contents
  - Take a look at the papers in that journals within the last two years
  - Investigate the editorial board
  - Compare your favourites with other journals

Getting prepared

- **<u>Read the guide for authors of the potential journals</u>**
  - Can be found at the journal‘s home page
  - Guidelines should be followed strictly

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. **Which is the general structure of scientific papers?**
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

ANATOMY OF A SCIENTIFIC PAPER

1 WHAT IT'S ABOUT
- The Report in a sentence.
- No unnecessary words.

2 WHO DID IT
- Those who did the work being reported.

3 WHAT IT SAYS
- The Report in a paragraph.
- Use PAST TENSE.

4 WHY I DID IT
- The problem, previous work, main findings and conclusions.
- Use PRESENT TENSE.

5 WHAT I DID
- Specifications, sources and amounts of materials.
- 'Cookbook recipes' for methods.
- Use PAST TENSE.

WRITING RESEARCH REPORTS

B.S. BROWN, School of Biol. Sci, University, Manchester, M13 9PT, UK.

ABSTRACT
A research report was written using the IMRAD formula – Introduction, Materials and Methods, Results And Discussion. A first draft was written and then edited.

INTRODUCTION
A research project cannot be considered to be completed until the findings have been published. Advice (1-3) is available on all aspects of writing reports for publication; some of this advice is summarised here.

MATERIALS AND METHODS
Before the first draft was begun, ideas were noted on sheets of paper labelled Introduction, Materials and Methods, Results, Discussion, and References. Rough tables and diagrams were designed. The first draft was then written and subsequently edited. The techniques of Woodford (3) and Atchity (1) were used.

6 WHAT I FOUND
- Experiments done and results obtained.
- Use PAST TENSE.

7 DIAGRAMS, GRAPHS, TABLES
- Make results easier to understand and compare.
- Should be clear and simple.

RESULTS
Findings were presented clearly and concisely but without comment. They were presented as text, as diagrams, or as graphs, as tables.

Figure 1 with a caption.

	A	B	C
X	12	20	28
Y	37	41	21
Z	55	45	16

Table 1 with a caption.

The most appropriate form of presentation was used, but each set of results was presented in only one of these ways.

DISCUSSION
The structure of a research report is now well established (2). In writing this Report, Woodford's technique (3) was found useful during initial preparation, while Atchity's technique (1) was helpful during the writing.

ACKNOWLEDGEMENTS
Thanks to anybody who provided additional help.

REFERENCES
1. Atchity, K. (1986). 'Writing: make the most of your time.' David and Charles, London.
2. Day, R.A. (1989). 'How to write and publish a scientific paper.' 3rd ed., Camb. Univ. Press, England.
3. Woodford F.P. (1988) 'Scientific writing for graduate students.' Rockefeller Univ. Press, New York.

8 WHAT IT MEANS
- What the findings show, relationship to previous work, conclusions.
- Use PAST TENSE for your findings.
- Use PRESENT TENSE for established findings.

9 WHO ELSE HELPED
- Those who gave technical, advisory, financial help.
- Those who provided equipment, cultures, etc.

10 WHAT ELSE HAS BEEN DONE
- Relevant work published by others (and yourself).
- Cited in the text.

ProSciencia
Scientific Consultants
Business Consultants
Training Consultants

Structure of papers

Scientific writing follows a rigid structure –

a format developed over hundreds of years

Consequently, a paper can be read at several levels:

- Some people just will refer to the title
- Others may read only the title and abstract
- Others will read the paper for a deeper understanding

Structure of research papers

- Title
- Abstract
- Key words
- Introduction
- Materials and methods
- Results
- Discussion
- Conclusions
- Acknowledgements
- References
- Appendix
- Tables
- Figure Captions
- Figures

Components of a Paper

Section	Purpose
Title	Clearly describes contents
Authors	Ensures recognition for the writer(s)
Abstract	Describes what was done
Key Words (some journals)	Ensures the article is correctly identified in abstracting and indexing services
Introduction	Explains the problem
Materials and Methods	Explains how the data were collected
Results	Describes what was discovered
Discussion / Conclusions	Discusses the implications of the findings
Acknowledgements	Ensures those who helped in the research are recognised
References	Ensures previously published work is recognised
Appendices (some journals)	Provides supplemental data for the expert reader

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. **Which are the characteristics of the structural components?**
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

Title

- Describes the paper's content clearly and precisely
- Is the advertisement for the article
- Do not use abbreviations and jargon**!**
- Search engines/indexing databases depend on the accuracy of the title - since they use the keywords to identify relevant articles

Title

- **Title should be…..**
  - Short
  - Informative
  - Explaining the subject of the study
  - May contain paper type (e.g. review)
  - Should be understandable in islolation
  - Should be specific (not too general)
  - Should not include abbreviations

Authors Listing

- ONLY include those who have made an intellectual contribution to the research
- OR those who will publicly defend the data and conclusions, and who have approved the final version
- Order of the names of the authors can vary from discipline to discipline
  - In some fields, the corresponding author's name appears first

Abstract

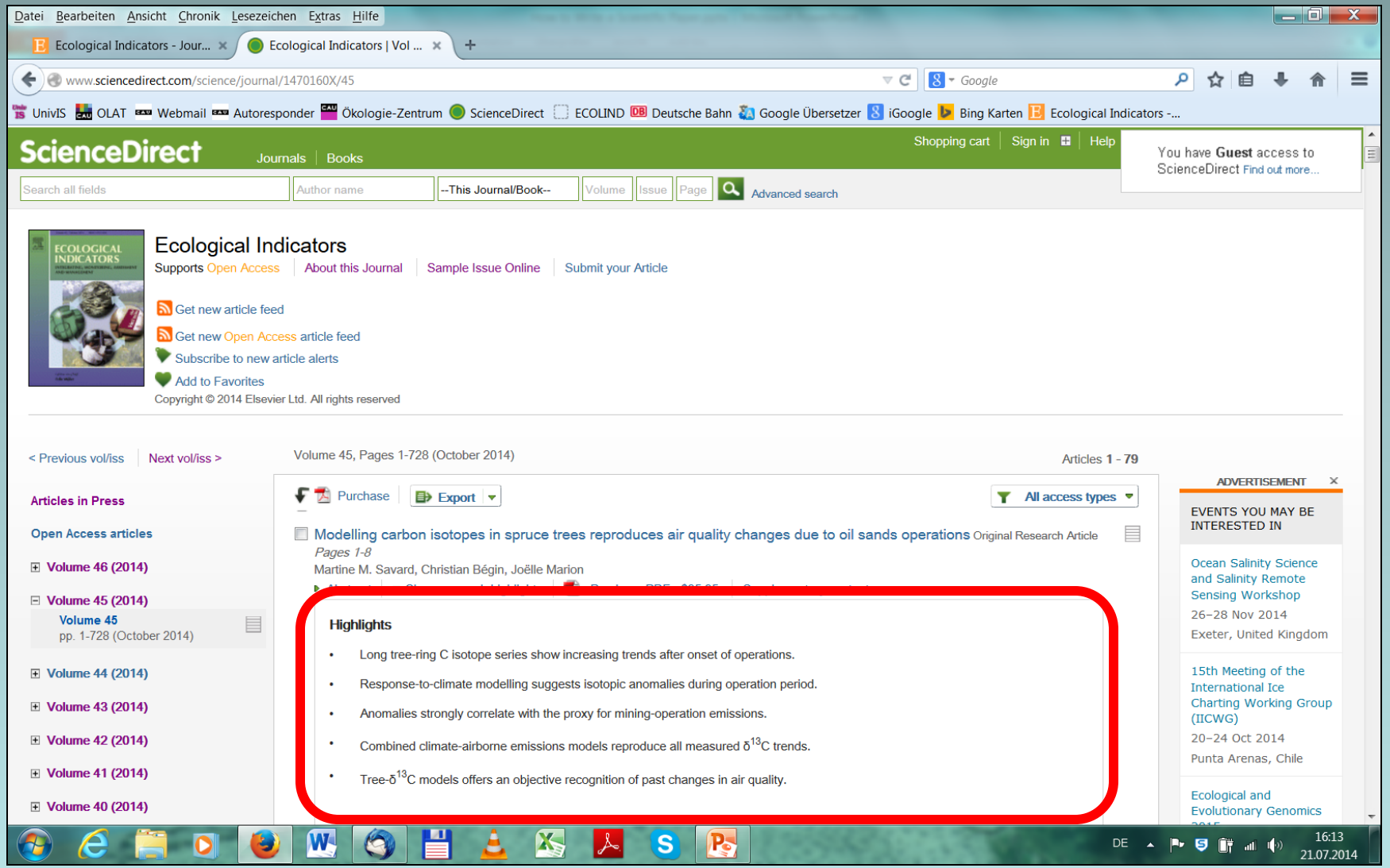
- **Briefly** summarize (often 150 words) - the problem, the method, the results, and the conclusions so that
  - the reader can decide whether or not to read the whole article
- Together, the title and the abstract should stand on their own
- Many authors write the abstract last so that it accurately reflects the content of the paper
- Abstracts serves to choose respective reviewers
- A miniature version of the whole text; 200-500 words in one paragraph

Write the abstract in the end of the whole procedure

Key words

- Search machines work with key words
- Key words help finding relevant articles quickly
- Do not use more than 5-7 key words!
- Do not use words which are already written in the title!
- Do not use key words which nobody would search for!

Research highlights



Graphical abstract

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

Ecological Indicators - Jour... | Ecological Indicators | Vol ...

www.sciencedirect.com/science/journal/1470160X/45

UnivIS OLAT Webmail Autoresponder Ökologie-Zentrum ScienceDirect ECOLIND Deutsche Bahn Google Übersetzer iGoogle Bing Karten Ecological Indicators -...

Macroinvertebrate indicators of ecological status in Mediterranean temporary stream types of the Balearic Islands Original Research Article

Pages 650-663

Liliana García, Isabel Pardo, Cristina Delgado

Abstract | Purchase PDF - $35.95 | Supplementary content

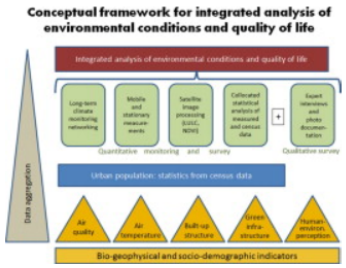
A conceptual framework for integrated analysis of environmental quality and quality of life Original Research Article

Pages 664-668

Ellen Banzhaf, Francisco de la Barrera, Annegret Kindler, Sonia Reyes-Paecke, Uwe Schlink, Juliane Welz, Sigrun Kabisch

Abstract | Close graphical abstract | Purchase PDF - $35.95

Graphical abstract



Trace metals of needles and litter in timberline forests in the Eastern of Tibetan Plateau, China Original Research Article

Pages 669-676

Ronggui Tang, Ji Luo, Peijun Yang, Jia She, Youchao Chen, Yiwen Gong, Jun Zhou

Abstract | Close graphical abstract | Research highlights | Purchase PDF - $35.95

Graphical abstract

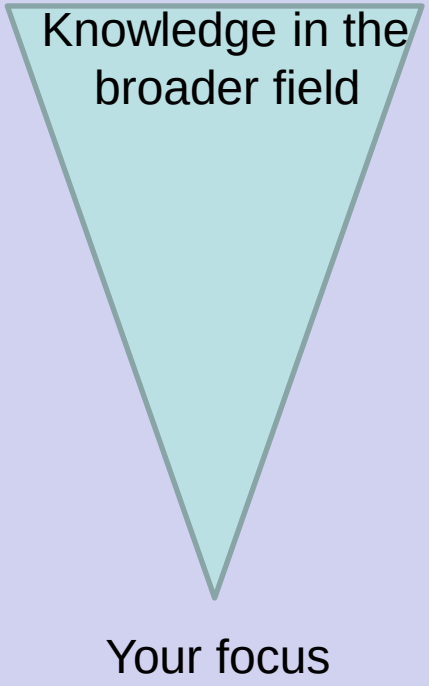
DE 16:14 21.07.2014

Introduction

- Clearly state the:
  - Problem being investigated
  - Background that explains the problem
  - Reasons for conducting the research
- Summarize relevant (available) research to provide the context of your paper!
- State how your work differs from published work!
- Identify the questions you are answering**!**
- Explain what other findings, if any, you are challenging or extending!

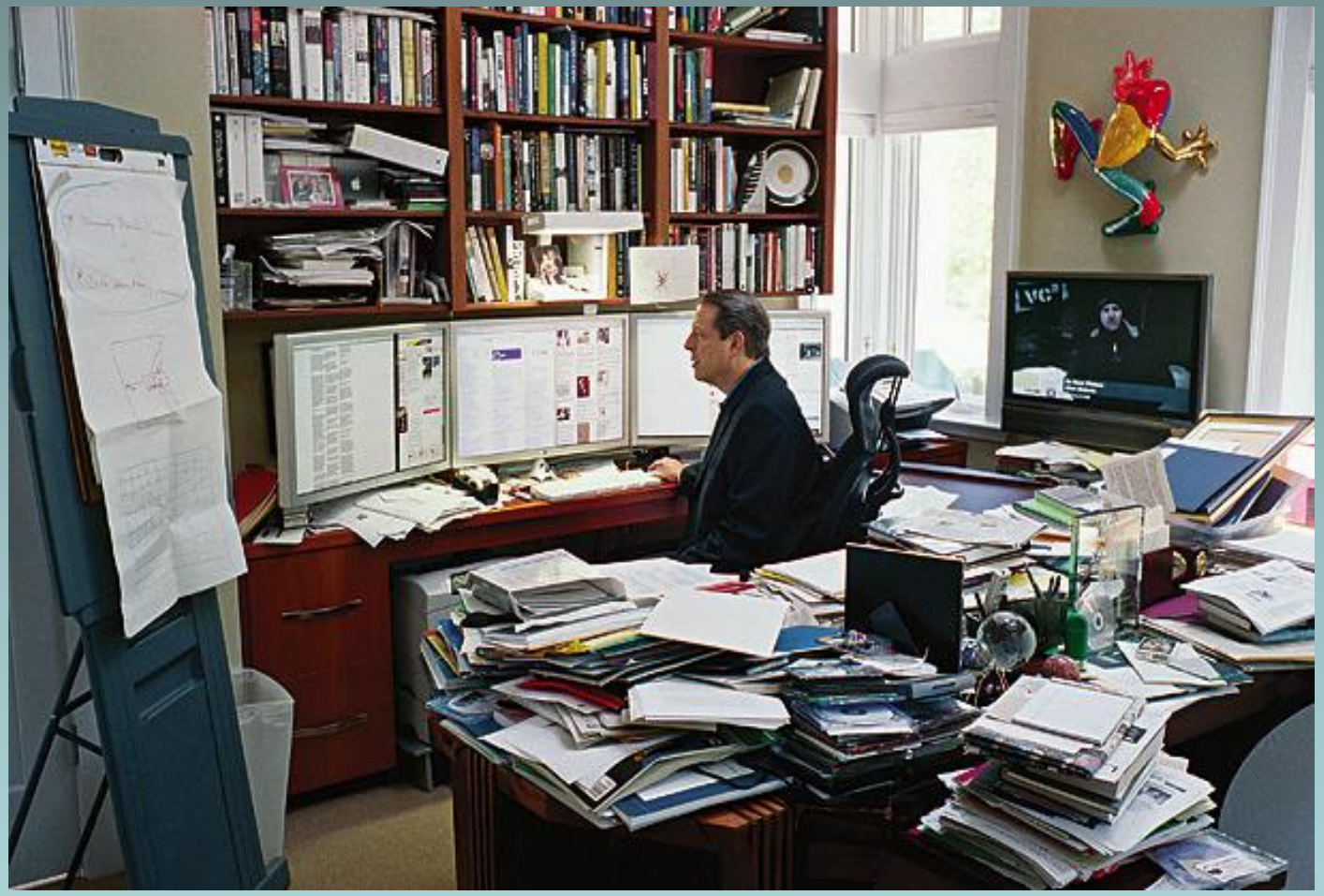
Introduction

- **Introduction should include** information about:
  - The background
  - The motivation
  - The state-of-the-art
  - The respective gaps in knowledge
  - Definitions (if necessary)
  - Objectives and questions
  - Structure of the paper



Materials and Methods

- Provide the readers with enough details, so they can understand and replicate your research
- Explain how you studied the problem, identify the procedures you followed, and order these chronologically where possible
- Explain new methodology in detail; otherwise name the method and cite the previously published work
- Include the frequency of observations, what types of data were recorded, etc.
- Be precise in describing measurements and include errors of measurement or research design limits



Gerald had begun to think that his methodology was too detailed.

Results

- Objectively present your findings, and explain your results!
- Show that your new results are contributing to the body of scientific knowledge!
- Follow a logical sequence based on the tables and figures presenting the findings to answer the question or hypothesis!
- Figures should have a brief description (a legend), providing the reader sufficient information to know how the data were produced!

Discussion

- Principles, relationships and generalizations that can be interpreted by the results
- Report about unexpected results or problems occuring due to the state-of-the-art
- Critical assessment of the study design and methods, limitations in analysis or validity
- Relationship with other results from the literature
- Theoretical implications of the results

Discussion/Conclusion

- Describe what your results mean in context of what was already known about the subject!
- Indicate how the results relate to expectations and to the literature previously cited!
- Explain how the research has moved the body of scientific knowledge forward!
- Do not extend your conclusions beyond what is directly supported by your results - avoid undue speculation!
- Outline the next steps for further study!

Conclusions

- Which conclusions can be drawn from your paper?
- No summary, no new facts
- Shortly describe the main message and the focal general outcome of your work

  → what can be learned from your paper?
- Refer to objectives and questions in the introduction
- Describe next steps

Acknowledgements

- Optional section
- Keep it short
- Acknowledge significant support (technical and financial support, data, information, reviewers,..)
- If you acknowledge persons, write what for
- Do not use titles
- Often: standard text necessary to acknowledge funding agencies

References

- Good reference lists support credibility, validity, communication
- In press: Accepted papers
- In prep or in review: Do not use those papers
- All references should have been read by you!
- Only list references which are used in the paper! Check this in the end!
- Avoid grey literature (no quality control)

Harvard Reference Style

Uses the author's name and date of publication in the body of the text **(Adams 1983a)**, and the bibliography is given alphabetically by author

Adams, A.B. (1983a) Article title: subtitle. Journal Title 46 (Suppl. 2), 617-619

Adams, A.B. (1983b) Book Title. Publisher, New York.

Bennett, W.P., Hoskins, M.A., Brady, F.P. et al. (1993) Article title. Journal Title 334 , 31-35.

Vancouver Reference Style

Uses a **number series** to indicate references; bibliographies list these in numerical order as they appear in the text

1. Adams, A.B. (1983) Article title: subtitle. Journal Title 46 (Suppl. 2), 617-619.

2. Lessells, D.E. (1989) Chapter title. In: Arnold, J.R. & Davies, G.H.B. (eds.) Book Title , 3rd edn. Blackwell Scientific Publications, Oxford, pp. 32-68.

3. Bennett, W.P., Hoskins, M.A., Brady, F.P. et al. (1993) Article title. Journal Title 334 , 31-35.

Jane suddenly realised that her reference list had too many self citations…

Appendix

- Additional information
  - Data
  - Tables
  - Model codes
  - questionnaires
- Optional
- Often only available on-line

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. **Which styles should be preferred?**
7. How to submit a paper?
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

Style and Language

- Refer to the journal's author guide for notes on style (see Publishing Skills Web-Bibliography for examples)
  - Some authors write their paper with a specific journal in mind
  - Others write the paper and then adapt it to fit the style of a journal they subsequently choose
- Objective is to report your findings and conclusions as clearly and concisely as possible
- Don't try to formulate un-understandable (scientific?)

Style and Language

- If English is not your first language, find a native English speaker (if possible) to review the content and language of the paper before submitting it
- Regardless of primary language, find a colleague/editor to review the content and language of the paper

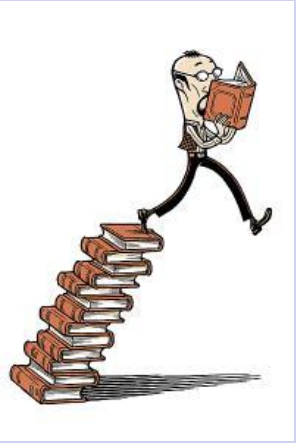
See: Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication http://www.icmje.org/

Style and Language Rules after Tress & Tress

- Write good English
  - Spelling control
  - Write in English directly
  - Ask a native speaker for help
- Follow the objective
  - Reduce your text to the focus of the paper
- Active form is often better than passiv
  - “We showed” instead of “it was shown”
- Avoid Abbreviations
  - Otherwise the reader will give up soon

Style and Language Rules after Tress & Tress

- Avoid synonyms for the same object (no prosa)
- Read out loud
- Use short sentences
- Use short paragraphs
- Shorten, shorten, shorten
- Consequently use one time (past / present) or mix it as follows:
  - Abstract: past
  - Introduction: present
  - Methods: past
  - Results: past
  - Discussion: present
  - Conclusions: present



Avoiding boring and pompous writing:

Summary: Prefer the

Common word to the rare word,

the standard to the off-beat,

the short to the long,

the single to the multiple,

the specific to the general,

the definite to the vague,

the concrete to the abstract,

the Anglo-Saxon to the Latinate.

ProSciencia
Scientific Consultants
Business Consultants
Training Consultants

Figures, graphs, tables

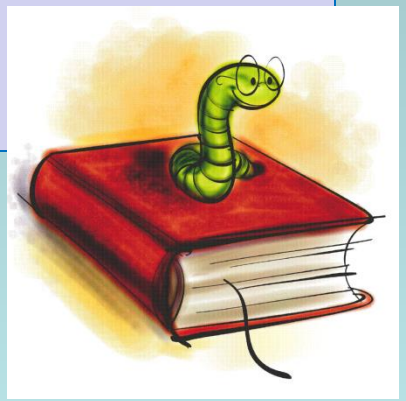
- Present complex data in a comprehensive way
- Support the text message (never use a figure or table without referring to it in the text)
- Useful to shorten the text
- Help the reader to understand what has been done, how it has been done and what was the outcome

Figures, graphs, tables

- Do not overload figures and tables
- Depict only what is really necessary to better understand the text
- If you want to show trends, use graphs
- If you want to present data, use tables
- Be prepared to produce black/white graphs (colours have to be payed in printed versions)
- Do not forget figure / table captions

Tests and improvisations

- Increase the quality and readablility of the article:
  - Collegial proofreading
  - Ask experts and non-experts
  - The reader is always right!!!!
  - Take your time



Writing a scientific text is an iterative process:

„The key to good writing is rewriting!“

ProSciencia
Scientific Consultants
Business Consultants
Training Consultants

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. **How to submit a paper?**
8. How does the peer review process work?
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

Article Submission

- Select your journal carefully
- Read the aims and scope
- Think about your target audience and the level of your work – do you have a realistic chance of being accepted?
- Follow the guidelines in the notes for authors and include everything they ask – it makes the editor's job easier…
- Articles should not be submitted to more than one journal at a time

Chronik Lesezeichen Extras Hilfe
Jour... 621241
ps/find/journaldescription.cws_home/621241?generatepdf=true
Google
mail Autoresponder Ökologie-Zentrum ScienceDirect ECOLIND Deutsche Bahn Google Übersetzer iGoogle Bing Karten Ecological Indicators -...
1 von 13 Automatischer Zoom

ECOLOGICAL INDICATORS

Integrating Sciences for Monitoring, Assessment and Management

ELSEVIER

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

ISSN: 1470-160X

DESCRIPTION

The ultimate aim of *Ecological Indicators* is to integrate the **monitoring** and **assessment** of **ecological** and **environmental indicators** with **management** practices. The journal provides a forum for the discussion of the applied scientific development and review of traditional indicator approaches as well as for theoretical, modelling and quantitative applications such as index

Article Submission

- Cover letter
  - Full address of corresponding author
  - Addresses, e-mails and names of co-authors
  - Title
  - Nice text (Hello editor,…..why this journal)
- Author statement
  - Work is original and has been carried out by the authors
  - All authors have contributed
  - All authors agree with the text and its submission
  - No part has been published elsewhere unless acknowledged in the text
  - Manuscript has not been submitted to another journal
- Potential referees

Editor Details - Mozilla Firefox

ees.elsevier.com/ecolind/EMDetails.aspx?docid=5186&ms_num=ECOLIND-4125&sectionID=1

Details for Manuscript Number: ECOLIND-4125

"Structural equation modeling as a tool to develop conservation strategies using environmental indicators: The case of the forests of the Magdalena river basin in Mexico City"

Cancel | Save and Close

Abstract | Additional Information | Manuscript Notes | Production Notes | Editors | Reviewers | Alternate Reviewers

Corresponding Author:	Gabriela Santibañez , Faculty of Sciences National Autonomous University of Mexico Mexico City, Federal District MEXICO [Proxy]

Author Comments:

Insert Special Character

We hereby submit the manuscript "The structural equation modeling as a tool to develop conservation strategies using environmental indicators: The case of the forests of the Magdalena River Basin in Mexico City" to considerate for publication in Ecological Indicators.
This manuscript reports the results of our study which proposes a method for establishing causal deterioration relationships of vegetation in relation to environmental and anthropogenic pressure indicators in order to promote appropriate strategies for maintaining biodiversity.

Other Authors:	Silvia Castillo-Argüero, PhD, Department of Ecology and Natural Resources, Faculty of Sciences, National Autonomous University of Mexico Ernesto V Vega-Peña, PhD, Department of Social and Environmental Systems Modeling. Ecosystems Research Center of Mexico Roberto Lindig-Cisneros, PhD, Department of Restoration Ecology. Ecosystems Research Center of Mexico José A Zavala-Hurtado, PhD, Department of Biology, Metropolitan Autonomous University
Article Type:	Research Paper
Section/Category:	
File Inventory:	File Inventory
Reference Checking Results:	View Reference Checking Results

Abstract: Top

Insert Special Character

Studies in Mexico using indicators to incorporate the knowledge on the conservation state of ecosystems have been developed mostly through a descriptive approach, consequently they are not well supported in ecological data, or they lack an analysis of socio-ecological integration, making difficult the implementation of the strategies derived from these conservation plans. Structural equations models (SEM) help with the understanding of direct and indirect interactions between variables and consequently they allow detecting root causes of changes. In this study, a method to

Editor Details - Mozilla Firefox

ees.elsevier.com/ecolind/EMDetails.aspx?docid=5186&ms_num=ECOLIND-4125&sectionID=1

Abstract: Top

Insert Special Character

Studies in Mexico using indicators to incorporate the knowledge on the conservation state of ecosystems have been developed mostly through a descriptive approach, consequently they are not well supported in ecological data, or they lack an analysis of socio-ecological integration, making difficult the implementation of the strategies derived from these conservation plans. Structural equations models (SEM) help with the understanding of direct and indirect interactions between

Keywords:	environmental indicators, temperate forests, P-S-R model, structural equation modelling, conservation status, weeds
Classifications:	**Methodological Subjects**; Measuring techniques; Modelling; Impact Assessment Methodology; **Environmental Functions**; Climatic Functions and Processes; **Biomes**; Temperate Ecosystems;
Initial Date Submitted:	Jul 20, 2014
Blinded Editors:	
Requested Editor:	
Corresponding Editor:	Felix Mueller, Editor in Chief
Current Editorial Status:	With Editor
Editorial Status Date:	Jul 21, 2014
Author Days To Revise:	60
Similarity Check:	View CrossCheck Report
Select Submissions Flags:	Add/Edit Submission Flags

Additional Information Top

Question	Response
How many words does your submission contain? (whole text file, including tables and figure captions).	9464
Your Paper Your Way offers you the option to upload your manuscript in one file and in any layout. The file can be PDF file or MS Word but all manuscript components should be included to allow referees to evaluate your manuscript. References can be in any style, as long as they are complete and consistent. Figures need to be high enough quality for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. See the Guide for Authors on the top menu for more details of the journal's requirements. Will you submit using **Your Paper Your Way** or **Standard Submission**?	Your Paper Your Way

!!!

no!

Folie 99 von 131 | "Default Design" | Deutsch (Deutschland)

Editor Details - Mozilla Firefox

ees.elsevier.com/ecolind/EMDetails.aspx?docid=5186&ms_num=ECOLIND-4125&sectionID=1

MS Word but all manuscript components should be included to allow referees to evaluate your manuscript. References can be in any style, as long as they are complete and consistent. Figures need to be high enough quality for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. See the Guide for Authors on the top menu for more details of the journal's requirements. Will you submit using **Your Paper Your Way** or **Standard Submission**?	Your Paper Your Way
Please confirm that you have mentioned all organizations that funded your research in the Acknowledgements section of your submission, including grant numbers where appropriate.	I confirm that I have mentioned all organizations that funded my research in the Acknowledgements section of my submission, including grant numbers where appropriate.

Manuscript Notes: Top

Display Manuscript Notes Flag — Insert Special Character

Production Notes: Instructions Top

Insert Special Character

Final Decision Term:	
Final Decision Date:	
Final Disposition Term:	None

Editors Top

Name:	Felix Mueller
Role:	Editor in Chief
Date Assigned:	Jul 21, 2014
Date Completed:	
Elapsed Days:	0
Recommendation:	

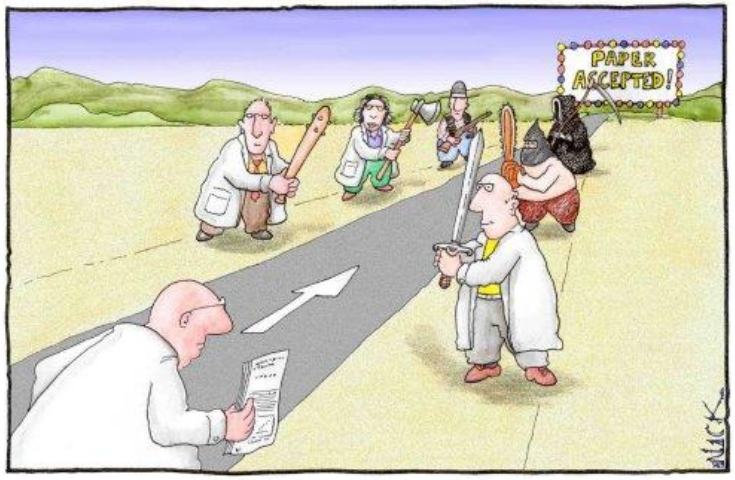
How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. **How does the peer review process work?**
9. Which mistakes should be avoided?

Some basic guidelines for the creation of successful articles

The peer-review process

- Paper assessment methodology
- Paper control before publication
- Guarantees high quality papers
- Check and judgement by independent experts



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

The persons involved

- Publisher: professional enterprise
  - Elsevier: 35% of scientific journals
  - Springer 10% of scientific journals
  - Publishing, marketing, database management, copyright protection, cooperation with libraries
  - Technical and production and adminstrative service
  - Wish to earn money

The persons involved

- Editor
  - Scientist in the field of the journal‘s scope
  - Mostly has a normal scientific job and is editor on top of it
  - Responsible for the development of the journal
  - Decides about rejections/revisions/acceptance
  - Ensures fairness and high standard quality control
  - Carries out the preselection
  - Invites reviewers and coordinates the review procedure
  - Communicates with all other partners

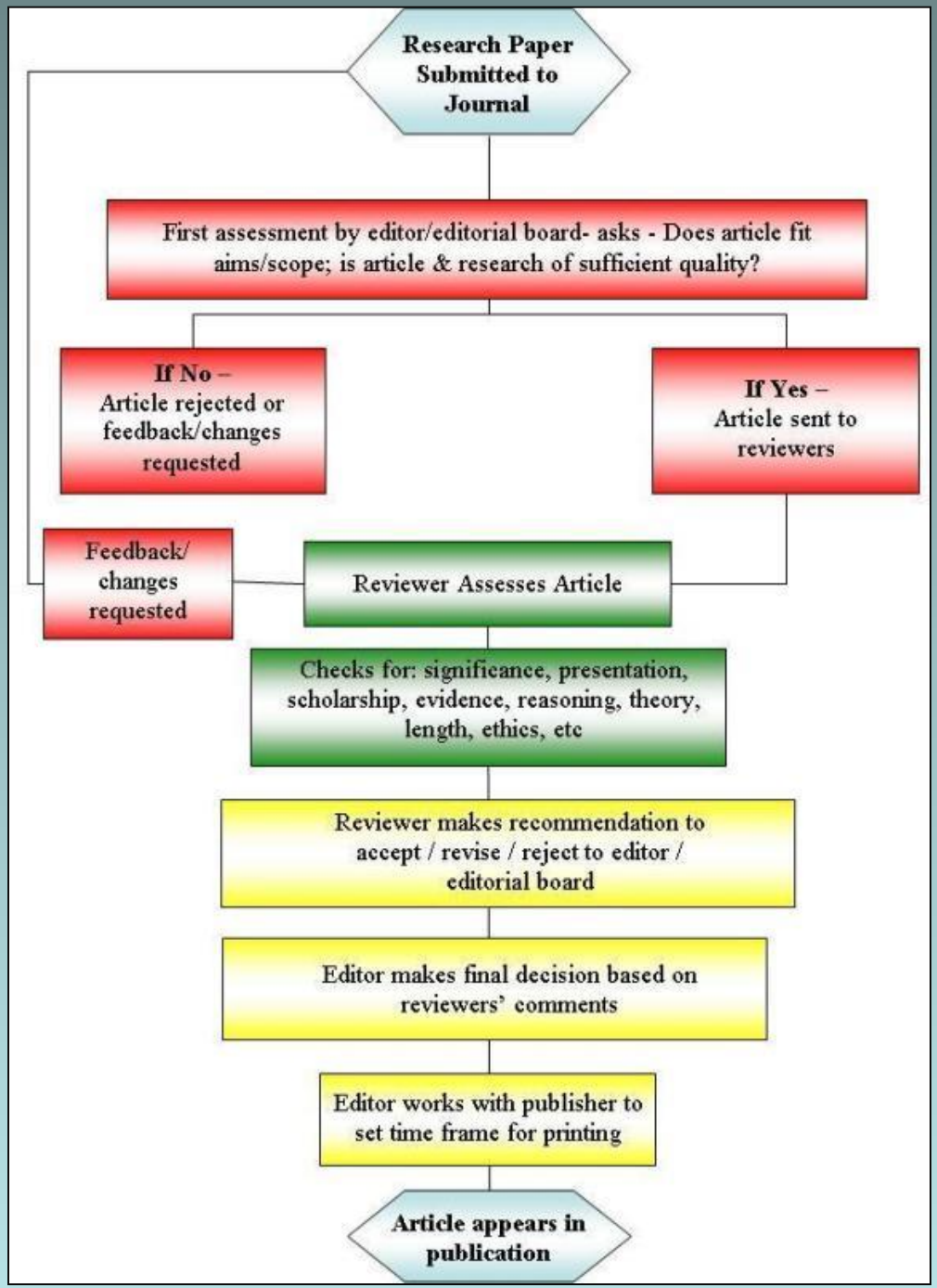
The persons involved

- Referee/reviewer
  - External and independent expert
  - Appointed by the editor
  - Experienced paper writer
  - Selected due to the contents of the paper
  - Can be suggested by the author
  - Has an academic job and does reviewing on top, thus works without payment
  - Evaluates the scientific quality of an article
  - Encourages the author to improve the manuscript

The peer-review process

- Editor pre-selection
  - Formal criteria
  - Scope of the journal
  - New and original
  - Relevance for international audience
  - Quality

→40-50% of papers fail already here



An overview of the peer-review process

The peer-review process

- What a review should be
  - Constructive
  - Helpful
  - Respectful to the ideas and the authors
  - Critical but fair
  - Time consuming and longer than 5 sentences
  - Considering all evaluation criteria

What a review should not be

Review template

Title of manuscript:

Reference number:

Reviewer's name (will not be provided to the author, unless the reviewer requests it):

Date:

Overall ranking of the article: ___ ___ (0=very poor 100= excellent)

General comment to the editor:

Evaluation:

( ) Acceptable in its present form
( ) Acceptable after minor revision
( ) Acceptable after moderate revision
( ) Acceptable after major revision
( ) Acceptable as a short communication (eventually after revision/reduction)
( ) Unacceptable

PART II: REVIEW

Manuscript reference number:

1. Does the subject of the paper fall within the scope of the journal?		
Yes	No	If no, comments:

2. Is it a new and original contribution? (no item for review articles)		
Yes	No	If no, comments:

3. Are the interpretations and conclusions sound, justified by the data and consistent with the objectives?		
Yes	No	If no, comments:

If the answers to any of the above three points are negative, please give clear arguments for the rejection of the papers. If the answers are positive, please continue with the following items:

4. Does the title of this paper clearly reflect its content?		
Yes	No	If no, comments:

5. Is the abstract sufficiently informative especially when read in isolation?		
Yes	No	If no, comments:

6. Are the keywords informative and appropriate?		
Yes	No	If no, comments:

7. Is the statement of objectives of the paper adequate and appropriate in view of the subject matter?		
Yes	No	If no, comments:

8. Are the methods exposed correctly and sufficiently informative to allow replications of the research?		
Yes	No	If no, comments:

9. Are the statistical methods used correctly and adequate?		
Yes	No	If no, comments:

10. Are the results clearly presented?		
Yes	No	If no, comments:

11. Is the article structured in agreement with the guidelines for authors? Is the organization of the article satisfactory?		
Yes	No	If no, comments:

12. Does the contents justify the length of the article?		
Yes	No	If no, comments:

13. Are the illustrations and tables all necessary, complete, clearly presented, and are the captions adequate and informative?		
Yes	No	If no, comments:

14. Are the references adequate and in agreement with the Guide for Authors?		
Yes	No	If no, comments:

15. Is the quality of the English satisfactory and understandable for a multidisciplinary and multinational readership?		
Yes	No	If no, comments:

The peer review process I.

- Paper submission
- Formal control (editorial office)
- Editor assignment
- Preselection by the editor
  - Reject → mostly „out of the scope“
  - Revise → improvement necessary before referees can work on the text → Authors have to hand in an improved article
  - Start of the review process

The peer review process II.

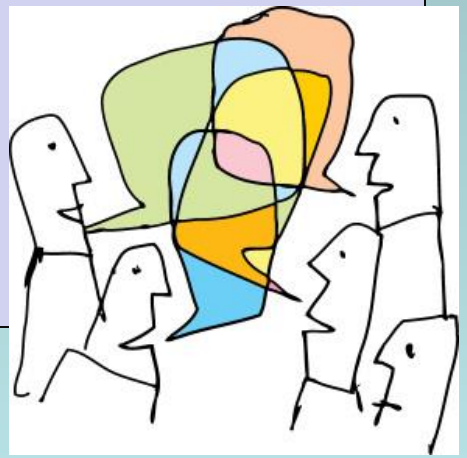
- Start review process
- Select 2 reviewers and ask for review
- Invitation reminder(s)
- „Reviewer hunting“ procedure
- (Finally) Reviewer agrees to review
- Review reminder(s)
- Reviews complete

The peer review process III.

- Reviews complete

  Accept Revise Reject
- Editor makes decision
- Editor writes decision letter to author with all review components
- Author receives review

  Accept Revise Reject



The peer review process IV.

- Author improves the text (revisions)
- Author documents all changes in details (cover letter)
  - Address all comments in the reviews!
  - Implement all changes requested!
  - Discuss points where you do not agree with the review and give good reasons why you do not change!
- Author resubmitts the article incl. the response letter

The peer review process V.

- Editor receives revised version and cover letter
- Simple cases: Editor decides directly
- After one major revisions:
- … second review procedure
- … third review procedure
- Editor‘s final decision (no discussion)

  Reject Accept

The peer review process VI.

- Rejection – what now?
  - Out of the scope?
  - Wrong article type?
  - Not innovative?
  - Bad quality?
- Wait two days (or more)!
- Try to understand the arguments!
- Analyse the reasons for the rejection!
- Change the article accordingly!
- Resubmitt it as a new paper or send it to another journal!

The production process

- Technical departments of the publisher produce proofs
- Proof reading and proof correcting
- Publisher makes changes
- Online publication
- Printed publication
- …… one year has passed

How to write a scientific paper?

1. Why do we (have to) publish?
2. Which types of publications are possible?
3. How to prepare the publication?
4. Which is the general structure of scientific papers?
5. Which are the characteristics of the structural components?
6. Which styles should be preferred?
7. How to submit a paper?
8. How does the peer review process work?
9. **Which mistakes should be avoided?**

Some basic guidelines for the creation of successful articles

Avoid common mistakes

- Select your journal carefully!
- Write the paper when the research has been finished, not before!
- Show that you know the state-of-the-art!
- Define your objectives clearly!
- Describe your methods precisely!
- Do not mix results, discussion and conclusions!
- Write a conclusion with clear reference to the introduction!
- Follow the reviewers‘ recommandations and document your consequences from reviews!
- Ask colleagues and native speakers for help!

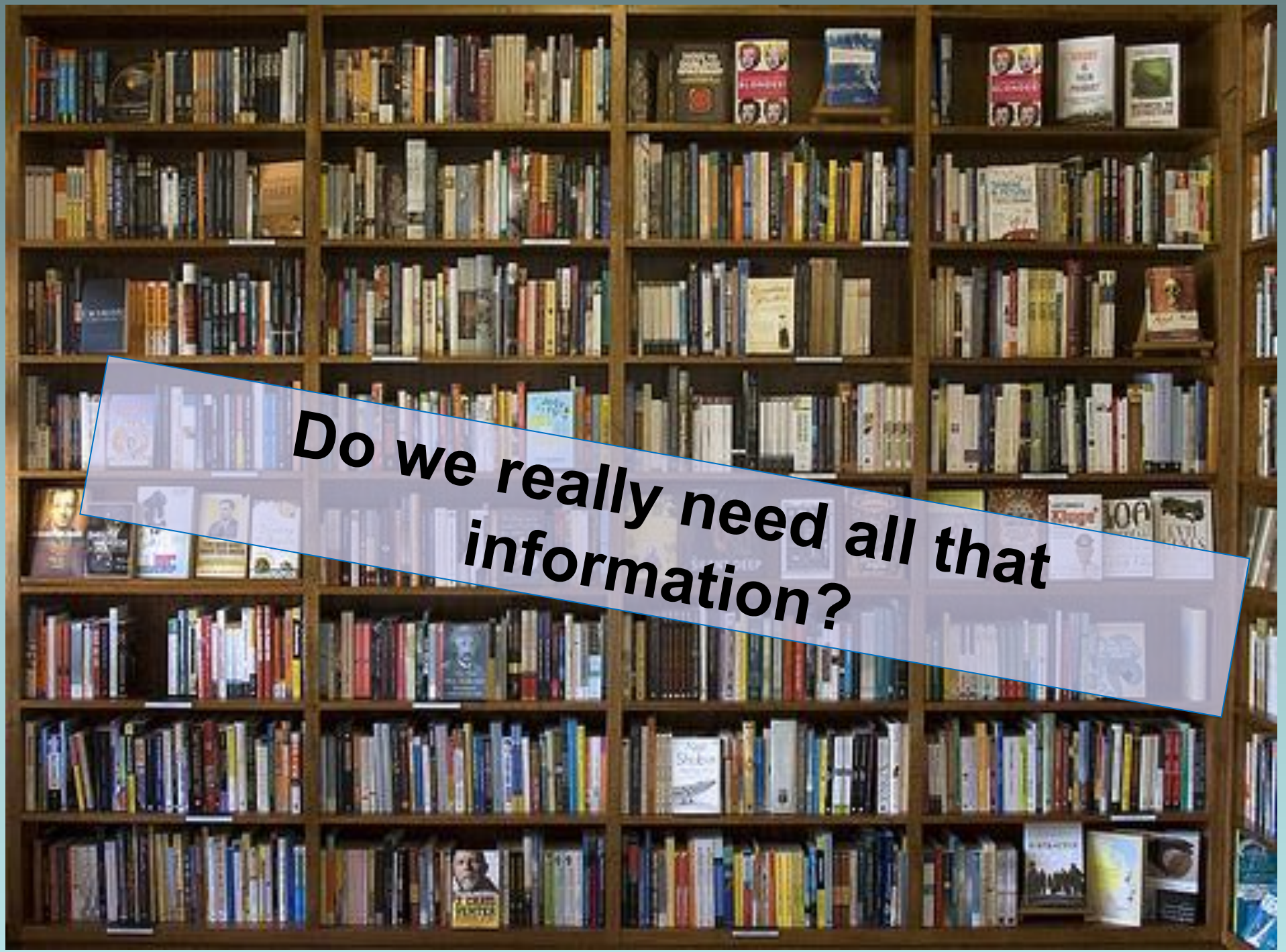
What makes a good paper?

- A clear Story
- A clear structure
- **A clear message**
- Well designed and self-explaining figures

ProSciencia
Scientific Consultants
Business Consultants
Training Consultants

Never forget:

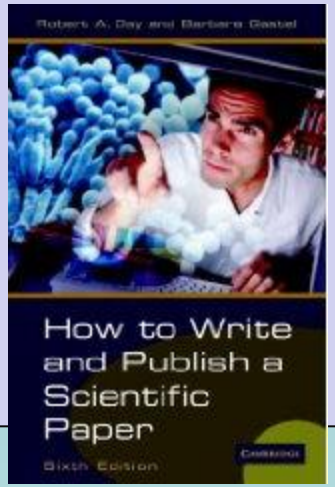
You are writing the paper for the reader!!!

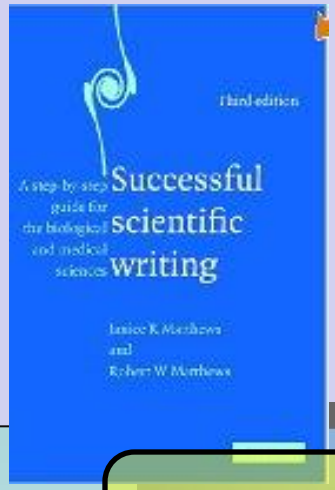

Do we really need all that information?

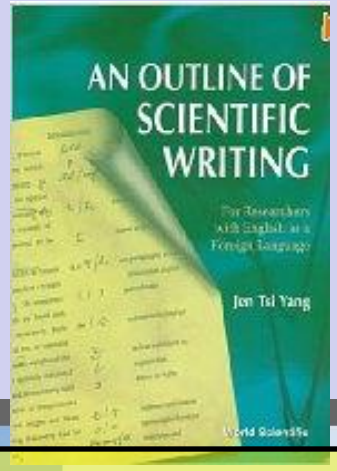
Further reading

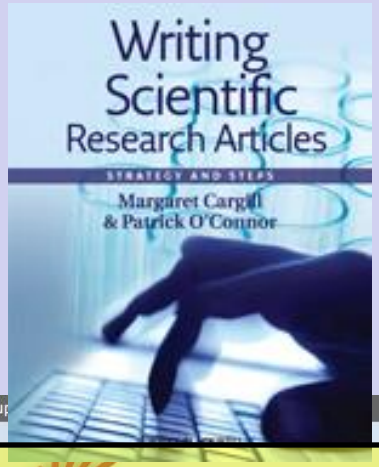
- http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWtoc.html
- *www.who.int/hinari/training/*
- http://www.writeresearch.com.au/index.html
- http://www.aaps-journal.org/submission%20pdf/How%20to%20Write%20a%20Scientific%20Paper.pdf

Main sources of this presentation









Recommended Books:

Writing For Science and Engineering
Heather Silyn-Roberts, Butterworth-Heinemann, 2000, ISBN 0 7506 4636 5

Writing Scientific Research Articles
Margaret Cargill & Patrick O´Connor, Wiley-Blackwell, 2009, ISBN 978 1 4051 8619 3

Style – Lessons in Clarity and Grace
Joseph M. Williams & Gregory BG. Colomb
Pearson, 2010, ISBN 978 0 205 02988 4

Online-Guides for Writing Scientific Texts:

The Science of Scientific Writing
http://www.americanscientist.org/issues/pub/the-science-of-scientific-writing/1

Presentation: "Science in Plain English"
http://www.weizmann.ac.il/YoungPI/writing

Guidelines for writing Scientific Papers
www.bms.bc.ca/library/**Guidelines**%20for%20**writing**%20**Scientific**%20**papers**.pdf

Scientific Writing Booklet
www.biochem.arizona.edu/marc/Sci-**Writing**.pdf

Tips on Scientific Writing
www.nhn.ou.edu/~morrison/Teaching/**WritingTips**.pdf

blog.edulify.com

Early motivation

Interesting readings

www.buzzle.com/img/
articleImages/57328-0.jpg

Organized literature overview

http://www.google.de/imgres?imgurl=http://cte.
uwaterloo.ca/media/images/generic/Responding

Creative writing - feeling success

http://www.fastweb.com/nfs/fastweb/attachment_images/0000/1588/iStock_
000002981814XSmall-college-search-panic_crop380w.JPG?1240344844

Happy end

http://blogs.spokenword.ac.uk/
deargreen/files/2009/04/graduation.png

Thanks for your attention!