

# Write and publish a scientific paper, the whole story



Institut des Sciences et Techniques Appliquées

*ILES Nadia, Lecturer*



Applied Sciences and Techniques Institute, Oran 1 University

Doctorate students days, February 1-2, 2020 Tlemcen University

# Outline

**1- Attraction laws : the whole story**

**2- Structuring results into scientific writing**

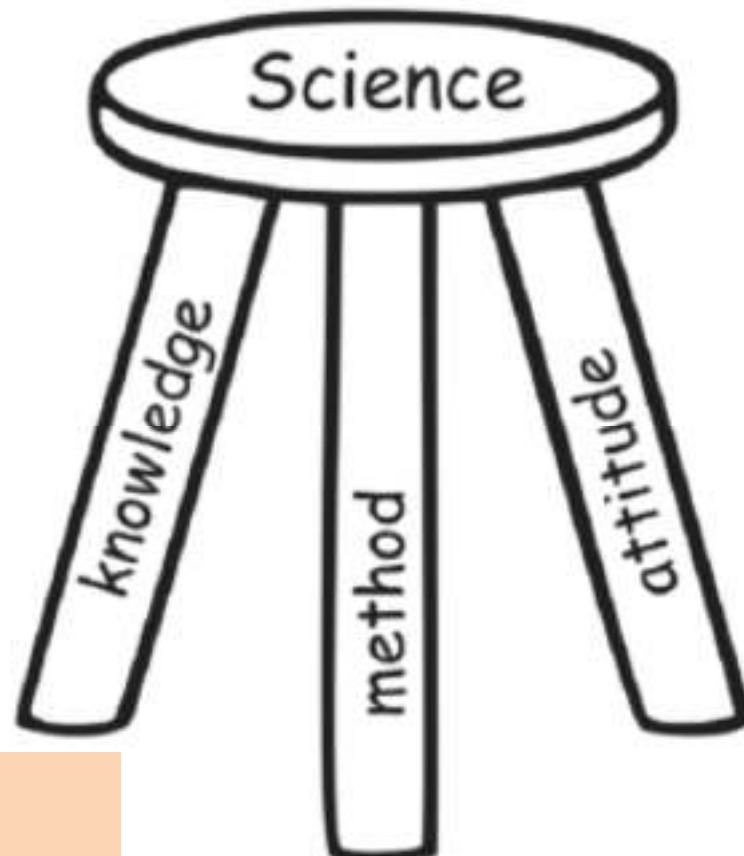
**3- The publishing process**

## 1- Attraction laws : the whole story



*Start writing a scientific paper,  
a big challenge !*

*You need 2 things: science  
and a language as basic resources*

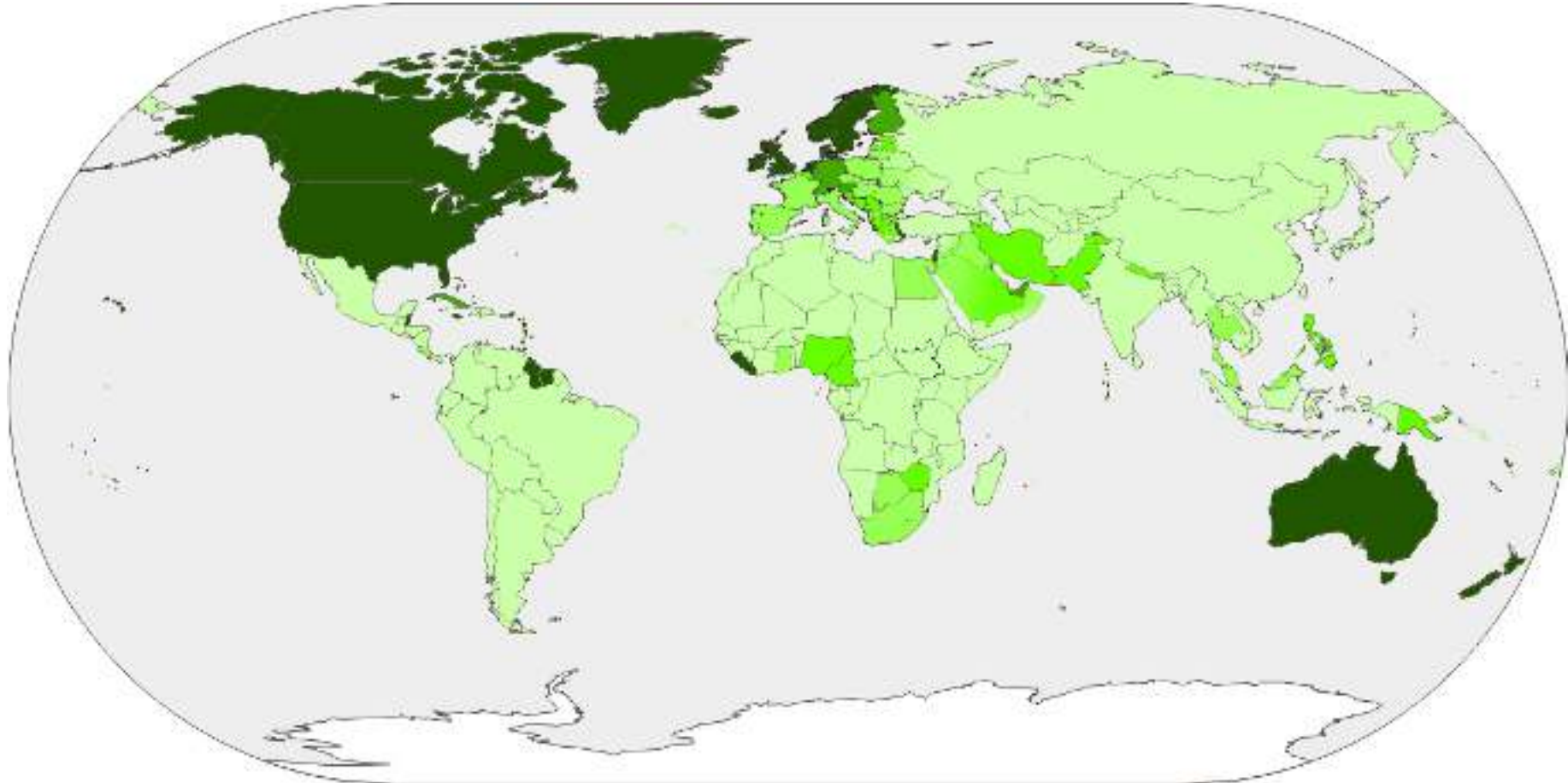


***Facts,  
Data,  
theories***

***Evaluating the  
effectiveness of  
Theories by  
comparing  
predictions to  
experiment***

***The belief  
that all  
scientific  
knowledge  
is subject  
to revision***

# *English is a global language of science*



Percentage of English speakers by country.

80-100%

60-80%

40-60%

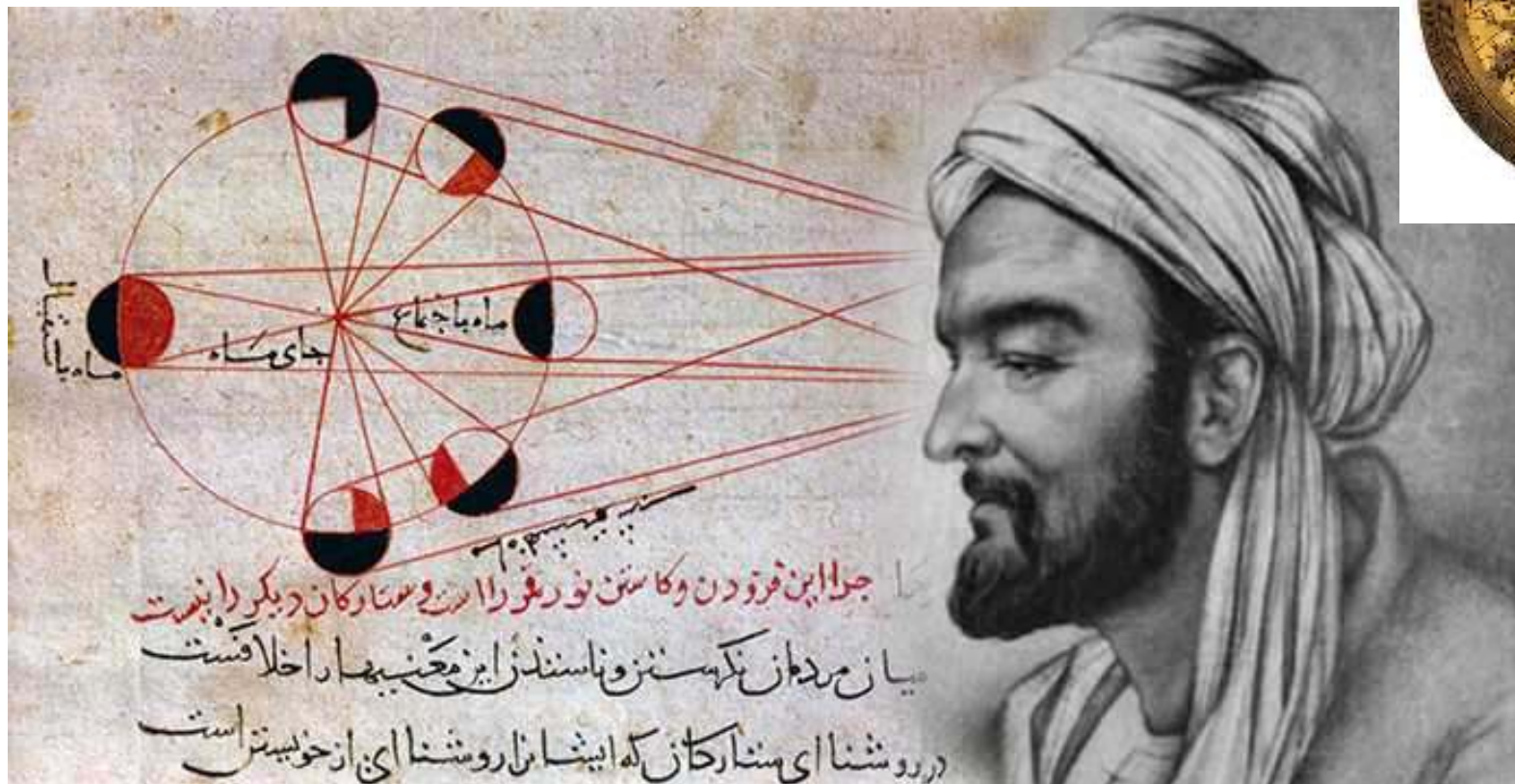
20-40%

0-20%



# Science and scholars at the arabs golden age

## El Beiruni and the story of earth radius calculation :



[pdf](#)

# 1- Attraction laws : the whole story

The fall of the banana

$$\Sigma \vec{F} = m\vec{\gamma}$$







Any time

- Since 2019
- Since 2018
- Since 2015
- Custom range...

Sort by relevance

Sort by date

- include patents
- include citations

Create alert

**The mathematical papers of Isaac Newton**

I Newton - 2008 - books.google.com

Newton's mathematical researches during the last five years of his stay in Cambridge before leaving in April 1696 to take up his duties at the Mint in London have three main centres of interest: methods of fluxions and series, classical pure geometry, and Cartesian analytical ...

☆ Cited by 209 Related articles All 4 versions

**Newton: philosophical writings**

I Newton - 2014 - books.google.com

Sir Isaac Newton (1642-1727) left a voluminous legacy of writings. Despite his influence on the early modern period, his correspondence, manuscripts, and publications in natural philosophy remain scattered throughout many disparate editions. In this volume, Newton's ...

☆ Cited by 79 Related articles

**A letter of Mr. Isaac Newton, professor of the mathematicks in the University of Cambridge; containing his new theory about light and colors: Sent by the Author to the ...**

I Newton - ... Transactions of the Royal Society of London, 2014 - royalsocietypublishing.org

Sir, To perform my late promise to you, I shall without further ceremony acquaint you, that in the beginning of the Year 1666 (at which time I applied my self to the grinding of Optick glasses of other figures than Spherical,) I procured me a Triangular glass-Prisme, to try ...

☆ Cited by 300 Related articles All 8 versions

**Correspondence of sir Isaac Newton and professor Cotes**

I Newton, J Edleston, R Cope - 2014 - content.taylorfrancis.com

Newton's Philosophiæ Naturalis Principia Mathematica, the most remarkable production of the human intellect that has yet been seen on the earth, whose mysterious path through space was first explained in its pages, was published about the middle of the year 1687, a ...

☆ Cited by 74 Related articles All 4 versions

**XMM-Newton observatory-I. The spacecraft and operations**

F Jensen, D Lumb, B Altieri, J Clavel, M Ehle ... - Astronomy & ... 2001 - aanda.org

The XMM-Newton Observatory is a cornerstone mission of the European Space Agency's Horizon 2000 programme, and is the largest scientific satellite it has launched to date. This paper summarises the principal characteristics of the Observatory which are pertinent to ...

☆ Cited by 1742 Related articles All 4 versions

**Population ecology of raptors**

I Newton - 2010 - A&C Black

☆ Cited by 3245 Related articles All 4 versions

**Isaac Newton: eighteenth century perspectives**

AR Hall, I Newton - 1999 - books.google.com

For the first time, the early eighteenth century biographical notices of Sir Isaac Newton have been compiled into one convenient volume. Eminent Newtonian scholar Rupert Hall brings together the five biographies on Newton from this period and includes commentary on each ...

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aanda.org



# 1- Attraction laws : the whole story

A letter of Mr. Isaac **Newton**, professor of the mathematicks in the University of Cambridge; containing his new theory about light and colors: Sent by the Author to the ...

I **Newton** - ... Transactions of the Royal Society of London, 2014 - royalsocietypublishing.org

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☆  **Cited by 300** [Related articles](#) [All 8 versions](#)



# PHILOSOPHICAL TRANSACTIONS.

February 19. 1671.

## The CONTENTS.

*A Letter of Mr. Isaac Newton, Mathematick Professor in the University of Cambridge; containing his New Theory about Light and Colors: Where Light is declared to be not Similar or Homogeneous, but consisting of difform rays, some of which are more refrangible than others: And Colors are affirm'd to be not Qualifications of Light, deriv'd from Refractions of natural Bodies, (as 'tis generally believ'd;) but Original and Connate properties, which in divers rays are divers: Where several Observations and Experiments are alledged to prove the said Theory. An Account of some Books: I. A Description of the EAST-INDIAN COASTS, MALABAR, COROMANDEL, CEYLON, &c. in Dutch, by Phil. Baldæus. II. Antonii le Grand INSTITUTIO PHILOSOPHIÆ, secundum principia Renati Des-Cartes; novâ methodo adornata & explicata. III. An Essay to the Advancement of MUSICK; by Thomas Salmon M. A. Advertisement about Thæon Smyrnæus. An Index for the Tracts of the Year 1671.*

*A Letter of Mr. Isaac Newton, Professor of the Mathematicks in the University of Cambridge; containing his New Theory about Light and Colors: sent by the Author to the Publisher from Cambridge, Febr. 6. 1671; in order to be communicated to the R. Society.*

S I R,

**T**O perform my late promise to you, I shall without further ceremony acquaint you, that in the beginning of the Year 1666 (at which time I applyed my self to the grinding of Optick glasses of other figures than *Spherical*.) I procured me a Triangular glass-Prisme, to try therewith the celebrated *Phænomena* of  
G g g g Colours.



In like manner, if any one of the PRIMAETICK COLOURS, suppose Red, be intercepted, on design to try the asserted impossibility of reproducing that Colour out of the others which are pretermitted; 'tis necessary, either that the colours be very well parted before the red be intercepted, or that together with the red the neighbouring colours, into which any red is secretly dispersed, (that is, the yellow, and perhaps green too) be intercepted, or else, that allowance be made for the emerging of so much red out of the yellow green, as may possibly have been diffused, and scatteringly blended in those colours. And if these things be observed, the new Production of Red, or any intercepted colour will be found impossible.

This, I conceive, is enough for an Introduction to Experiments of this kind; which if any of the *R. Society* shall be so curious as to prosecute, I should be very glad to be informed with what success: That, if any thing seem to be defective, or to thwart this relation, I may have an opportunity of giving further direction about it, or of acknowledging my errors, if I have committed any.

So far this Learned and very Ingenious Letter; which having been by that *Illustrious Company*, before whom it was read, with much applause committed to the consideration of some of their Fellows, well versed in this argument, the Reader may possibly in an other *Treat* be informed of some report given in upon this Discourse.

Ans.



# PHILOSOPHICAL TRANSACTIONS

Philosophical Transactions is the world's first and longest-running scientific journal. It was launched in March 1665 by Henry Oldenburg (c.1619-1677), the Society's first Secretary, who acted as publisher and editor.

Current issue

Editor-In-Chief

ISSN (Online): 2053-9223

ISSN (Print): 0261-0523

## Latest articles from *Philosophical Transactions A* and *B*

4 March 2019

**A review on  
computational modelling  
of phase-transition  
problems**

Hector Gomez, Miguel Bares and  
Adrian Moore

4 March 2019

**Diffusionless (chemically  
partitionless)  
crystallization and  
subsequent ...**

Olga V. Guskova, Peter K. Galenko,  
Vasily G. Shepelevich, ...

4 March 2019

**Thermodynamics of  
rapid solidification and  
crystal growth kinetics in  
glass-forming alloys**

P. K. Galenko, V. Anisimov, K. Reuther,  
M. Rettenmayr, A. Salicrú and ...

4 March 2019

**Thermal dependence of  
large-scale freckle  
defect formation**

A. Kuo, N. Shevchenko,  
M. Alexandrakis, I. Kozlins, ...

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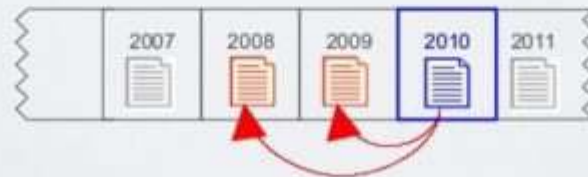
# Journal Impact Factor IF

## SCIENTIFIC PERFORMANCE INDICATORS (METRICS)

### Impact Factor (IF)

The frequency with which an average article in a journal gets cited.

$$\text{Impact factor 2010} = \frac{\text{All citations received by Journal X in 2010 to any content published in 2008-2009}}{\text{No. of citable items published in Journal X in 2008-2009}}$$



Philosophical Transactions of the Royal Society B/ 2017 Impact factor : IF= 5.666



Articles

About 639,000 results (0.08 sec)

Any time

Since 2019

Since 2018

Since 2015

Custom range...

Sort by relevance

Sort by date

include patents

include citations

Create alert

**Kohn-Sham theory for ground-state ensembles**

[CA Ullrich](#), [W Kohn](#) - *Physical review letters*, 2001 - APS

An electron density distribution  $n(r)$  which can be represented by that of a single-determinant ground state of noninteracting electrons in an external potential  $v(r)$  is called pure-state  $v$ -representable (P-VR). Most physical electronic systems are P-VR. Systems ...

☆ 99 Cited by 102 Related articles All 6 versions

[CITATION] **W. Kohn** and LJ Sham, *Phys. Rev.* 140, A1133 (1965).

[W Kohn](#) - *Phys. Rev.*, 1965

☆ 99 Cited by 6506 Related articles

**Hohenberg-Kohn theory including spin magnetism and magnetic fields**

[W Kohn](#), [A Savin](#), [CA Ullrich](#) - *International journal of quantum ...*, 2005 - Wiley Online Library

Beginning with work by U. von Barth and L. Hedin in 1972 and continuing with recent papers in 2001 by K. Capelle and G. Vignale and by H. Eschrig and WE Pickett, questions have been raised about the meaning and validity of Hohenberg-Kohn theory when spin ...

☆ 99 Cited by 53 Related articles All 7 versions

[PDF] [jussieu.fr](#)

**Self-consistent equations including exchange and correlation effects**

[W Kohn](#), [LJ Sham](#) - *Physical review*, 1965 - APS

From a theory of Hohenberg and Kohn, approximation methods for treating an inhomogeneous system of interacting electrons are developed. These methods are exact for systems of slowly varying or high density. For the ground state, they lead to self-consistent ...

☆ 99 Cited by 50573 Related articles All 29 versions

[PDF] [aps.org](#)

**Inhomogeneous electron gas**

[P Hohenberg](#), [W Kohn](#) - *Physical review*, 1964 - APS

This paper deals with the ground state of an interacting electron gas in an external potential  $v(r)$ . It is proved that there exists a universal functional of the density,  $F[n(r)]$ , independent of  $v(r)$ , such that the expression  $E = \int v(r) n(r) d r + F[n(r)]$  has as its minimum value the ...

☆ 99 Cited by 45163 Related articles All 20 versions

[PDF] [aps.org](#)

**Motion of electrons and holes in perturbed periodic fields**

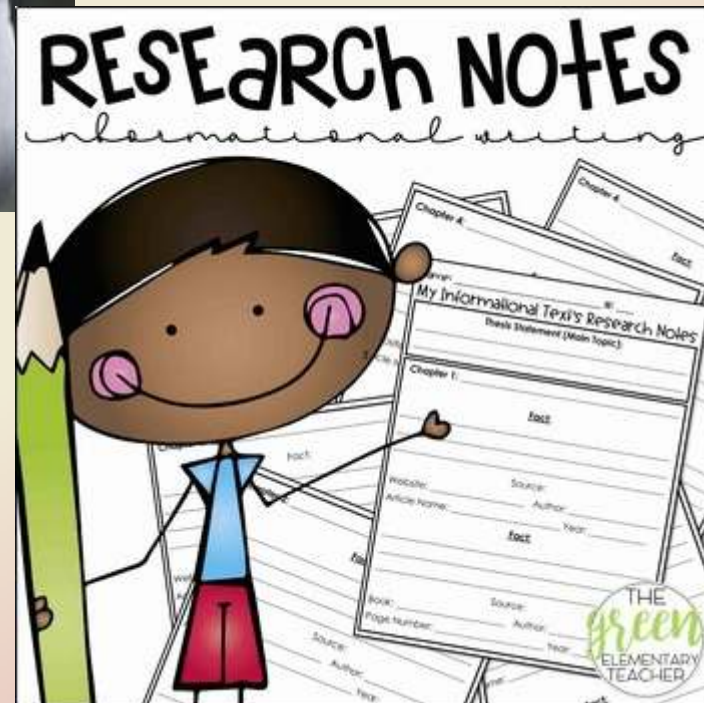
[JM Luttinger](#), [W Kohn](#) - *Physical Review*, 1955 - APS

A new method of developing an "effective-mass" equation for electrons moving in a perturbed periodic structure is discussed. This method is particularly adapted to such

[PDF] [uni-paderborn.de](#)



# Produce a minimum Publishable unit

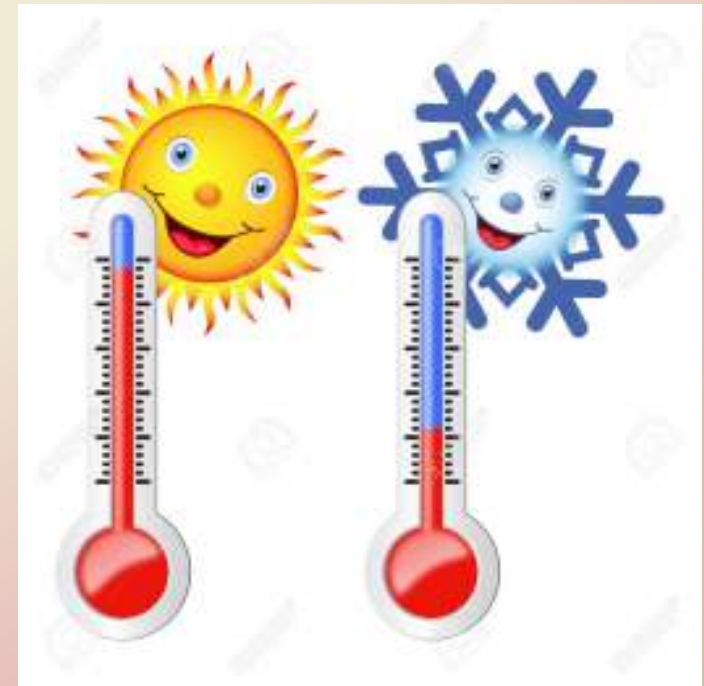


## 2- Structuring results into scientific writing

Original results :

When preparing an original research paper for publication ensure that you are providing the basic ingredients to constitute what the journal will consider a publishable article !

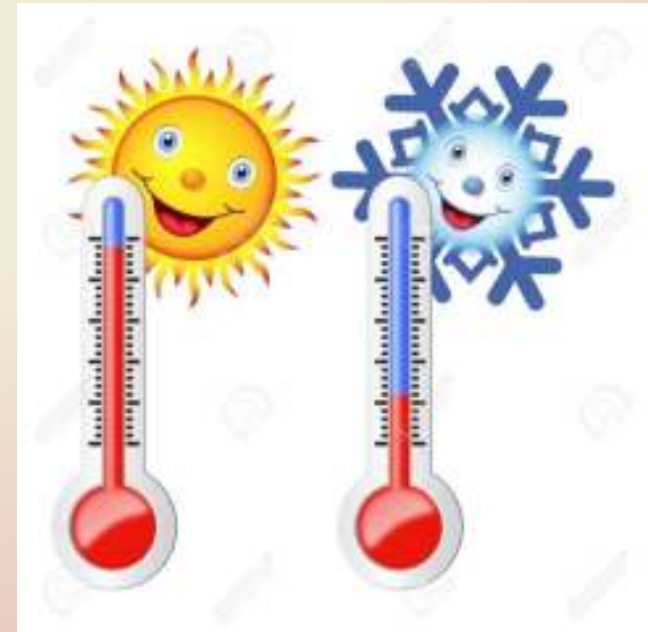
Not specified by the journal !



## 2- Structuring results into scientific writing

Ask your self first :

- Have I done something new and interesting ?
  - Is there any chalenging in my work ?
  - Is my work related directly to a current hot topic ?
  - Have I provided solutions to some difficult problem ?
- Then ask your supervisor :

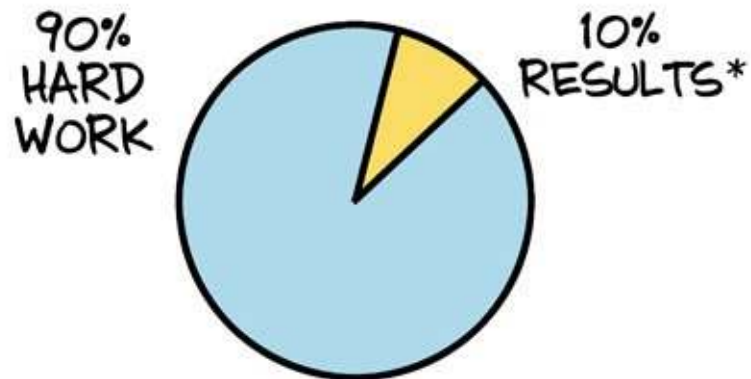




## 2- Structuring results into scientific writing

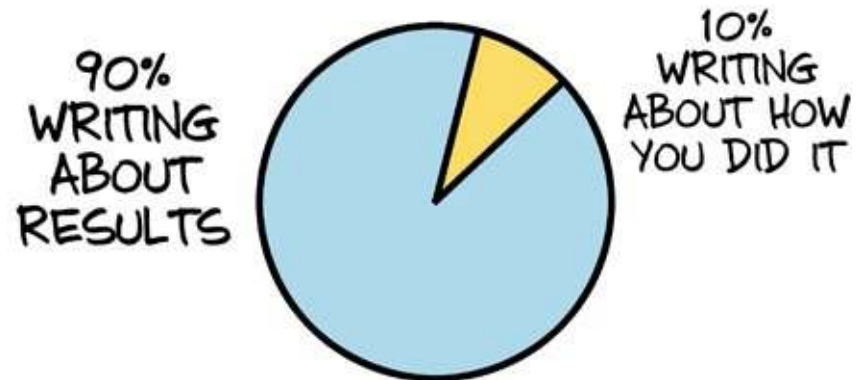
**Be patient !**

DOING RESEARCH:



\* BEST CASE SCENARIO

WRITING ABOUT RESEARCH:

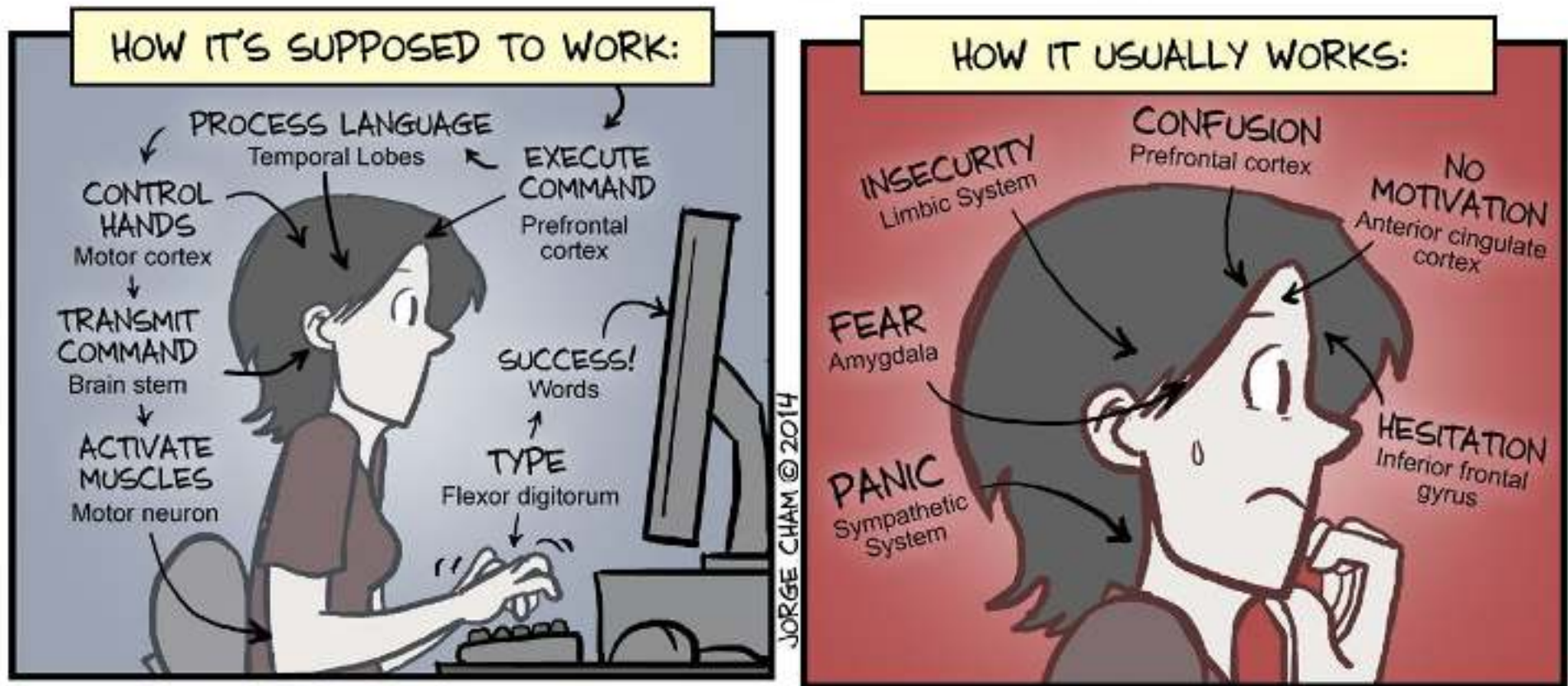


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## 2- Structuring results into scientific writing

### The neurobiology of writing



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## Choose the length : Types of articles

- **Letters and rapid communications** : quick communication of significant or original advances, without including too much data or details.
- **Review paper** : summarize recent development on a specific topic, without introducing new data
- **Full article** : contain significant data detail, development and outcomes
- **Research elements** : publish research output, such as data, software, methods, videos and much more citable articles



## 2- Structuring results into scientific writing

### Choose a target journal

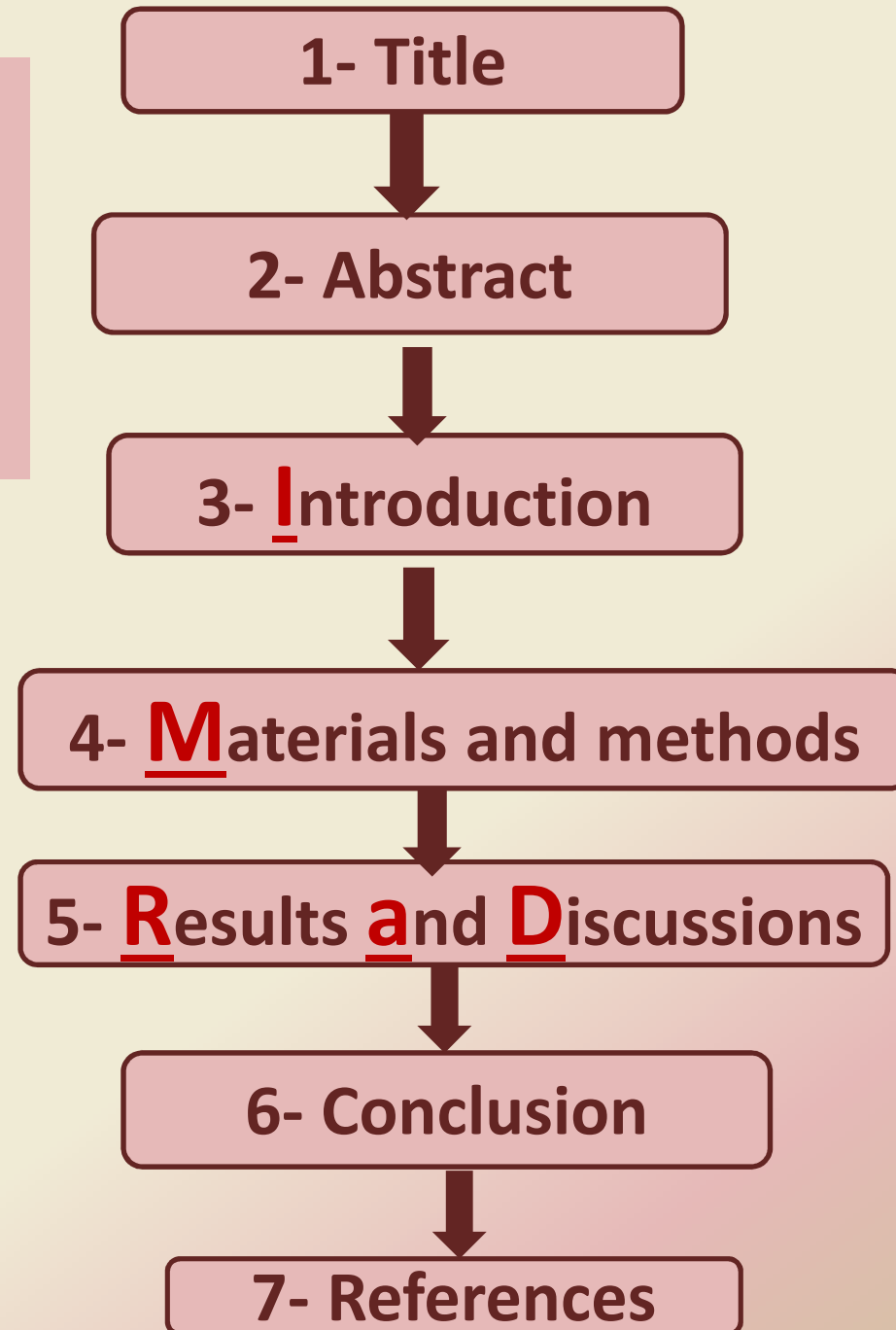
Thomson journals list : Category  
22 scopus fields

<https://www.researchgate.net/publication/330545462> Thomson Reuters This master journal list

<https://www.researchgate.net/publication/333238363> Latest Impact Factors Journal List Thomson Reuters based on 2019 Journal Citation Reports

**2- Structuring  
results  
into scientific  
writing**

**Writing Process :  
IMRaD**



# Components of a paper

## 1- Title :

Should be short and gives a general idea of the paper contents

## 2- Abstract :

-Number of words : 150 → 300

- Must provide a complete summary including : problem to be solved, the approach to the problem, the major findings and short conclusion

# abstract writing : Filling the gaps

## Abstract MadLibs!!

This paper presents a \_\_\_\_\_ method for \_\_\_\_\_  
(synonym for new) (sciencey verb)  
the \_\_\_\_\_. Using \_\_\_\_\_, the  
(noun few people have heard of) (something you didn't invent)  
\_\_\_\_\_ was measured to be \_\_\_\_\_ +/- \_\_\_\_\_  
(property) (number) (number)  
\_\_\_\_\_. Results show \_\_\_\_\_ agreement with  
(units) (sexy adjective)  
theoretical predictions and significant improvement over  
previous efforts by \_\_\_\_\_, et al. The work presented  
(Loser)  
here has profound implications for future studies of  
\_\_\_\_\_ and may one day help solve the problem of  
(buzzword)  
\_\_\_\_\_  
(supreme sociological concern)

**Keywords:** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
(buzzword) (buzzword) (buzzword)



# abstract example

J. H. Hetherington

Compliments  
of the authors



VOLUME 35, NUMBER 21

PHYSICAL REVIEW LETTERS

24 NOVEMBER 1975

## Two-, Three-, and Four-Atom Exchange Effects in bcc $^3\text{He}$

J. H. Hetherington and F. D. C. Willard

*Physics Department, Michigan State University, East Lansing, Michigan 48824*

(Received 22 September 1975)

We have made mean-field calculations with a Hamiltonian obtained from two-, three-, and four-atom exchange in bcc solid  $^3\text{He}$ . We are able to fit the high-temperature experiments as well as the phase diagram of Kummer *et al.* at low temperatures. We find two kinds of antiferromagnetic phases as suggested by Kummer's experiments.

The Secret History Of The Cat Who Authored A Physics Paper

## Components of a paper

### 3- Introduction:

What did you/others do? Why did you do it

- Description of the problem
- Review of relevant literature on the subject :  
“State of art ”
- Potential solutions to the problem briefly
- Structure or roadmap for the next parts of the paper

## 2- Components of a paper

### 3- Materials and methods:

#### **How did you do it ?**

Information on how to accomplish the objective (theories, hypotheses, techniques, experiments, ...).

### 4- Results and discussions :

#### **What did you do find ?**

- Results : Images, figures, tables....
- Explanation and discussion of figures, tables, ... without concluding remarks.

## 2- Components of a paper

**5- Conclusion : should discuss the main results**

**6- References :**

**- Bibliography of cited papers carefully referenced in the text of your paper.**

**7- Sometimes :**

**- Acknowledgement, Appendices.**



# Acknowledgement sample

## Acknowledgments

The authors wish to thank coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, more coffee, coffee, coffee, coffee, coffee, the person that served us the coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, coffee, extra coffee, and coffee. Also, our Moms.

AN HONEST ACKNOWLEDGMENT SECTION

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# Piece of advice for writing a SP

## 4 C rule :

when preparing to write your paper, try to be :  
Correct, Clear, Consistent, and Concise

## Add to this :

- Have a well defined objective
- Be self-contained
- Be understandable
- Be informative
- Add to our understanding of the state of art

HERE ARE MY CORRECTIONS. I WANT TO SEE IT AGAIN BEFORE YOU SUBMIT IT.



MAKES CORRECTIONS

# THE ENDLESS CYCLE?



MAKES EDITS

HERE'S THE LATEST DRAFT.

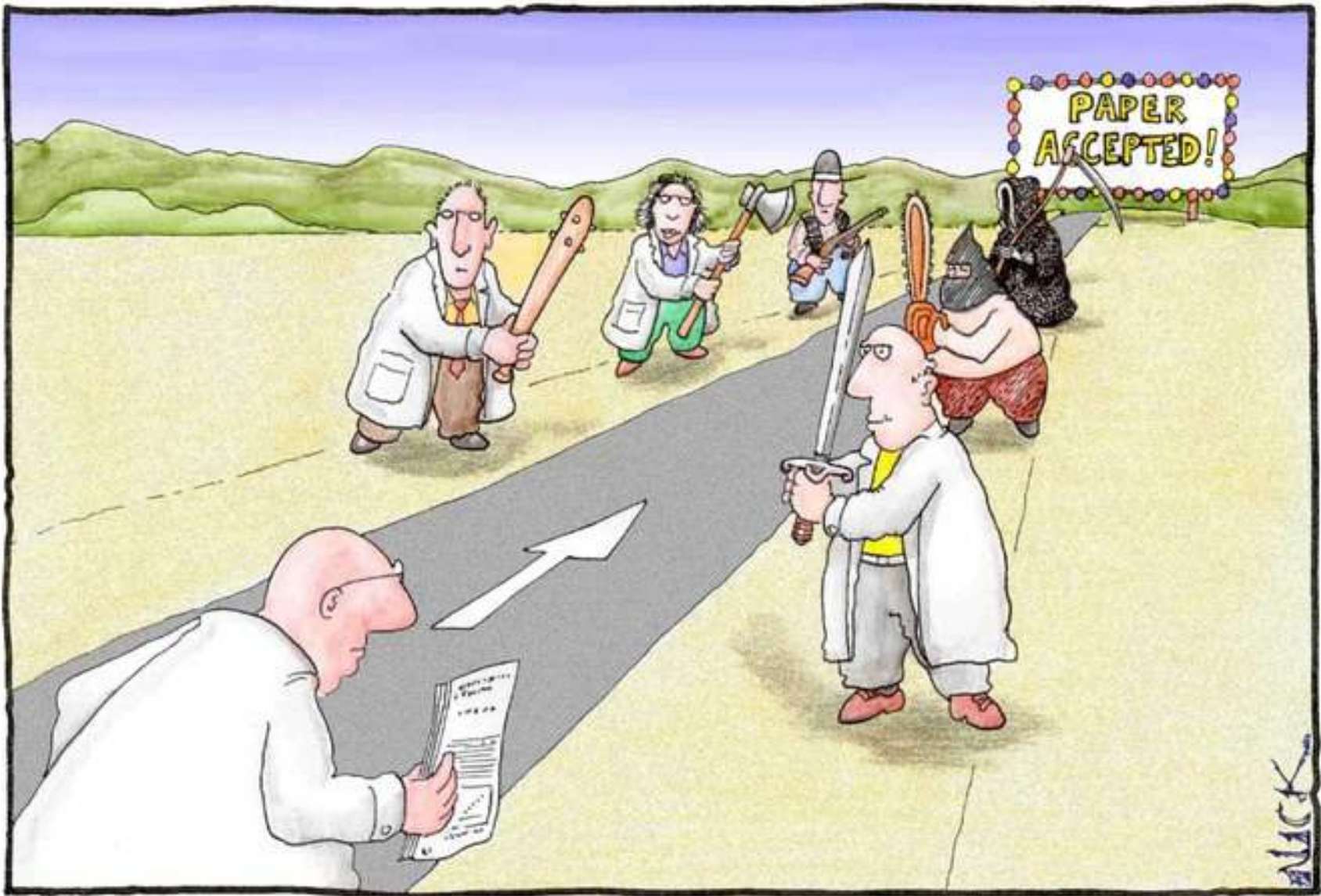


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# What after writing a paper ?



**Publish or perish**

## 3- Publishing process

- **Check English quality of your manuscript**  
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**Not for free !**
- **Check the references.**
- **Download and read the guide for authors :  
check template of your manuscript**
- **Ethics ....**

## 3- Publishing process

### Reviewers consider the following :

- 1) the importance, timeliness, relevance, and prevalence of the problem addressed
- 2) the quality of the writing style (i.e., that it is well-written, clear, straightforward, easy to follow, and logical)
- 3) the study design applied (i.e., that the design was appropriate, rigorous, and comprehensive)
- 4) the degree to which the literature review was thoughtful, focused, and up-to-date
- 5) the use of a sufficiently large sample.



## 3- Publishing process

- **Prepare a cover letter**
- **Create an account in the journal web site**
- **Submit your manuscript : filling information ( authors, affiliation, potential referees or reviewers, upload manuscript file, compile)**

## 3-Publishing process

- **Track your submitted paper**
- **After acceptance: article in press, proofing, offprints**
- **Copyright**

## Author's editor revisions to manuscripts published in international journals



John Flowerdew, Simon Ho Wang\*

City University of Hong Kong, Department of English, 83 Tat Chee Avenue, Kowloon, Hong Kong, PR China

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Available online xxx

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Writing for publication

Proofreading

Revision

Scientific editing

### ABSTRACT

English as Additional Language (EAL) scholarly writers have to overcome numerous obstacles to meet the expectations of editors and peer reviewers before they can publish their research articles in international journals published in English. A number of shapers (Burrough-Boenisch, 2003) are often involved in revising such articles before their eventual publication. This study focuses on the revision changes made by an author's editor to a corpus of such articles leading up to their eventual publication. Based on textual analysis of the early drafts and published manuscripts of 15 SCI-indexed journal articles by Chinese doctoral students, a double-entry coding scheme was developed to describe 5160 revision changes made to the manuscripts, in terms of five types of revision, i.e., substitution, correction, addition, deletion, and rearrangement, and four different lexico-grammatical levels, i.e., morpheme, word, group and clause/clause complex. With the exception of correction, a category which applies to surface-level errors (which do not affect meaning), and is the second most frequent category of changes, all of the other categories represent changes which often substantially alter the meanings of the texts and which involve negotiation between the editor and the writer. The theoretical and pedagogical implications of the findings are discussed with reference to previous studies focusing on revision changes and to debates concerning English as a Lingua Franca franca and World Englishes.

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# La maison du doctorant, université Oran 1

https://www.univ-oran1.dz/maison\_doctorants/index.html

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## La Maison du Doctorant

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Actualités & Annonces

Journée des Doctorants est reportée,

Logo

MD  
Maison du Doctorant

Actualités & Annonces

Un Nouvel Espace  
pour les Jeunes  
Chercheurs.

Inscription

Le tableau périodique

v/Affiche\_id19F.jpg





10ans déjà!

### Journée Des Doctorants

Campus Taleb Mourad (ex IGMO)  
Le 23-01-2020  
A l'Auditorium B. Talahit

Cette journée est destinée aux doctorants de l'Université Oran 1. Pour vous accueillir et vous accompagner dans votre parcours de thèse.

#### Contact

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## ACCUEIL DES DOCTORANTS

Accueil des nouveaux doctorants inscrits en 2019



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Filmez-vous entrain de présenter vos travaux de recherches en 3 minutes

**First Workshop :**

**to discuss the results and guidelines of scientific papers on**

**March 6-7, 2016**

**Workshop at Prof. SURESH Kumar II Advanced Area Health University**

<b>Wednesday, March 3, 2016</b>			
08:00-09:00 am	Workshop registration, Table arrangement		
09:00-09:30 am	Workshop opening : Dr. H.P.N. SURESH Kumar, Vice-Chancellor of Central Institute of Health Sciences, Manipal, Changanarayana and Health Science, Group II Health Science		
09:30-10:30 am	Workshop on Science: Algebraic unified language of mathematics between Dr. SURESHKUMAR Kumar, Group II Health Science		
10:30-11:00 am	Break		
11:00-11:30 am	Break		
11:30-12:00 pm	Workshop on Science for meeting on health science. Dr. H.P.N. SURESH Kumar, Group II Health Science		
12:00-12:30 pm	Break		
12:30-01:00 pm	Break		
01:00-01:30 pm	Workshop on Science, Dr. SURESHKUMAR Kumar		
01:30-02:00 pm	Workshop on Science and health science, Dr. SURESH Kumar		
02:00-02:30 pm	<b>Engineer I</b> Dr. H.P.N. SURESH Kumar Dr. SURESHKUMAR Kumar	<b>Engineer 2</b> Dr. H.P.N. SURESH Kumar Dr. SURESHKUMAR Kumar	<b>Advanced</b> Dr. H.P.N. SURESH Kumar Dr. SURESHKUMAR Kumar

**Thursday, March 4, 2016**

08:00-09:00 am	Workshop on Science and health science		
	<b>Engineer I</b> Dr. H.P.N. SURESH Kumar Dr. SURESHKUMAR Kumar	<b>Engineer 2</b> Dr. H.P.N. SURESH Kumar Dr. SURESHKUMAR Kumar	<b>Advanced</b> Dr. H.P.N. SURESH Kumar Dr. SURESHKUMAR Kumar
09:00 am	Workshop on Science and health science		

# Le tableau périodique en fete 29-30 Octobre 2019









**Merci pour votre  
attention**