Production, search and citation of Scientific literature

MNSE 2017-2018 – 1st training session

nicolas.jardin@ec-lyon.fr
roxane.mahevo@ec-lyon.fr

ÉCOLE CENTRALE LYON

Planning of the training

Following a researcher from his documentary search to the publication and the evaluation of his article

Finding scientific literature

Writing a scientific article

Finding a publisher and publish the article

1. Online resources to find scientific literature

2. Structure of a scientific article
+ Plagiarism and scientific fraud
+ Bibliography

3. Scientific publication circuit
+ Evaluation of researchers

Finding scientific literature

Online resources to find scientific lilterature

BIBLIOTHÈQUE MICHEL SERRES
ÉCOLE CENTRALE LYON

Scopus®

Google™ Scholar

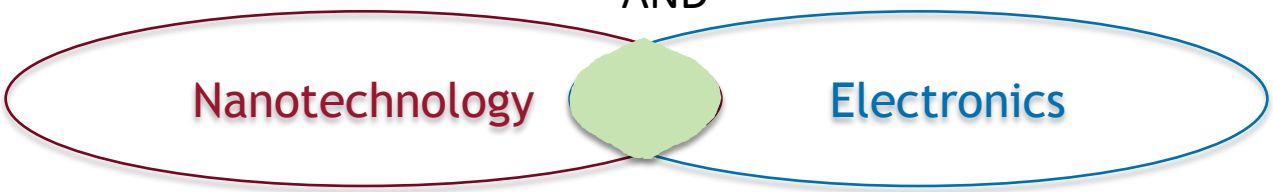
HAL archives-ouvertes.fr

sudoc

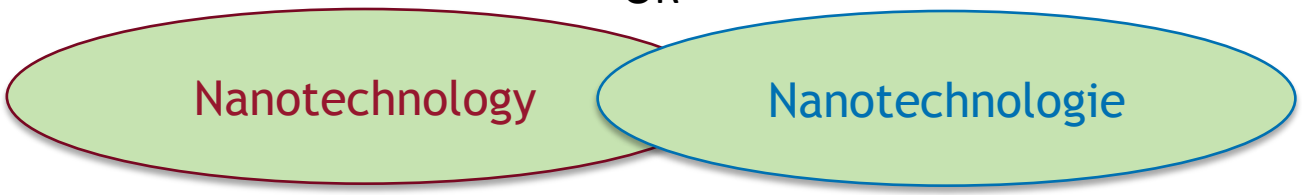
Improve your search queries

- Boolean operators

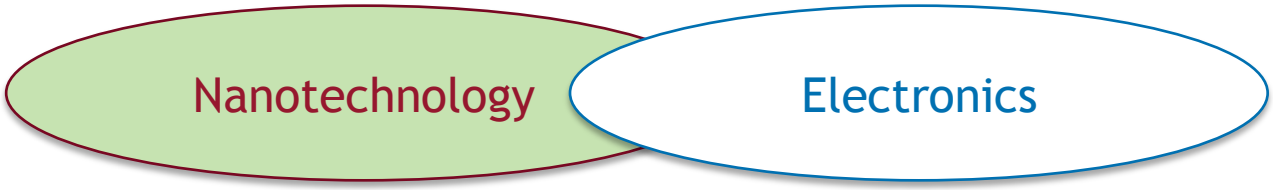
AND



OR



NOT



Improve your search queries

- Truncation

Nano* → Nanotechnology/ies, nanosciences, nanotubes, nanometrics…

- Exact phrase

« National Nanotechnology Initiative » ;
« molecular nanotechnology »

- Other search operators : ex. Google

→ You can also use the advanced search!

Writing a scientific article

ÉCOLE CENTRALE LYON

Structure of a scientific article

Powder Technology 279 (2015) 254–261

Contents lists available at ScienceDirect

Powder Technology

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

Title

Ambivalent role of fine particles on the stability of a humid granular pile in a rotating drum

Xixi Huang [a,b], Sandrine Bec [b], Jean Colombani [a,*]

Authors

[a] Institut Lumière Matière, Université de Lyon, Université Claude Bernard Lyon 1, CNRS UMR 5306, Domaine Scientifique de la Doua, F-69622 Villeurbanne, France
[b] Laboratoire de Tribologie et Dynamique des Systèmes, Université de Lyon, École Centrale de Lyon, CNRS UMR 5513, 36, av. Guy de Collongue, F-69134 Écully, France

Signatures

ARTICLE INFO

Article history:
Received 20 November 2014
Received in revised form 2 April 2015
Accepted 4 April 2015
Available online 15 April 2015

Keywords:
Stability
Rotating drum
Dust
Humidity
Lubrication
Jamming

ABSTRACT

We have studied the influence of fine particles on the stability of a granular medium in a rotating drum. The stability diagram of this system was established as a function of the drum rotation speed, fine particle content and relative humidity. Four regimes were observed. At low fine content, an avalanching regime is encountered at low rotation rate, and a continuous flow regime at high rotation rate. At high fine content, a stick–slip regime at the drum wall is seen at low rotation rate and a continuous sliding regime at high rotation rate. The influence of fines is ambivalent. At low fine content, they fluidize the pile and decrease its stability, by granular lubrication. At high fine content, they solidify the pile and increase its stability, by jamming the grain assembly. The enhancement of humidity increases the stability for high fine content, but has no effect for low fine content.

Structure of a scientific article

- Introduction
  - → Nature and importance of the issues ; scientific context
- Materials and Methods
  - → Technical description ; reproductibility issue
- Results
  - → Qualitative and quantitative ; facts, measurements and observations – illustrations : graphs, tables…
- Discussion
  - → Interpretation of results, comparison with other works, theoretical and practical implications
- Conclusion
  - → Key results, innovations, potential consequences and benefits

The scope of scientific fraud

What?

- Plagiarism
- Duplication
- Falsification
- Fabrication
- Selective and biased choice of data
- Non-communication of data
- Fictional authors or referees
- Stealth
- Moral harassment towards subordinates
- non-compliance with the legal requirements
- Conflict of interest

When?

- Project design
- Project operations
- Peer review process
- Publication of the results

Scientific fraud nowadays

- A marginal but increasing phenomenon
- Easier and wider access to scientific publications ; world-wide competition among researchers
- Generalization of the evaluation exclusively based on the amount and the impact of the publications (« Publish or perish »)
- The reign of positive results
- New ways of frauding : subcontracting and computerizing

Scientific fraud nowadays

- A marginal but increasing phenomenon

- Easier and wider access to scientific publications ; world wide competition among researchers

- Generalization of the evaluation exclusively based on the amount and the impact of the publications (« Publish or perish »)

- The reign of positive results

- New ways of frauding : subcontracting and computerizing

Consequences : hyper publication, waste of (public) money, lack of confidence from the public and the industries, more and more pointless articles, scientific biases for future researchers, public health…

Why should I cite sources?

- It's the only way to use other people's works without **plagiarizing**
- It helps your readers to find out more about your sources
- It **shows the amount of research** you've done
- It provides support to your ideas
- It keeps you from taking the blame from bad ideas

Copyright involves :

Moral rights	Economic rights
Right of paternity or 'attribution' = right to claim the **authorship** of the work **Respect** of the original work Right to ask to **opt out** the work *(specific to France)* Right to **disclose** the work *(specific to France)*	The owner of rights earns **money** from **the use of his work** : ▪ **Reproduction of the work** = making copies ▪ Communication to the public It lasts from 50 to 100 years after the author's death according to the countries.

In France, moral rights last for ever, impossible to waive them or to be deprived from them.

Exceptions :
- ❑ *Short citation*
- ❑ *Works published under Creative Commons license*
- ❑ *Works placed in the public domain*

What is a bibliographic reference ?

Set of necessary data elements to **identify** a document or a part of a document of all kinds, on any medium (book, article, website, etc.). Less complete than a bibliographic or a catalog record, a bibliographic reference is used in bibliographies, footnotes, etc.

ADBS. « Référence bibliographique ». *ADBS - L'association des professionnels de l'information et de la documentation*. [En ligne] Disponible sur : < http://www.adbs.fr/reference-bibliographique-18394.htm?RH=OUTILS_VOC > (consulté le 4 janvier 2016)

What is a bibliographic reference ?

- « Necessary data elements to identify a document » :
  - Author ;
  - Title ;
  - Publication date ;
  - Url
- Depending on the type of document you describe, and on the citation style you use, the elements in the bibliographic reference will vary.

Citation style

The layout of your bibliographic references depends on the citation style you choose, which determines:

- The **elements** according to the type of document (authors, title, publisher, publication, page numbers, url, etc,)

- The **order** of these elements

- The **typographic style** of these elements and the **punctuation marks** to separate them (title in italics/into quotation marks, full first name or initials of the first name…)

Bibliographic references according to the type of document

Examples with ACS Nano or Nanoscale style :

Book:
Name of the author, Initials of the first name of the author. *Title of the book*; Publisher: Place of publication; Date of publication.

Book:
Initial of the first name of the author. Name, *Title*, Publisher, Place of publication, Edition, Date of publication, Volume.

Electronic journal article:
Name of the author, Initials of the first name of the author. Title of the article *Title of the journal* **Year of publication**, *Vol.,* Page numbers.

Electronic journal article:
Initial of the first name of the author. Name, Title of the journal, Date of publication, **Volume**, Pagination of the article.

Bibliographic references according to the type of document

Examples with ACS Nano or Nanoscale style :

Thesis/report:
Name of the author, Initials of the first name of the author. Title of the thesis/report. Type of thesis/report. Institution: Place of publication, Date of publication.
Thesis/report:
Initial of the first name of the author. Name, Type of document (ex. : PhD Thesis), University, Defense date.

Web page :
Name of the author, Initials of the first name of the author. Title of the web page Url (date of access)
Web page :
Initial of the first name of the author. Name, title of the webpage, url, (date of access).

Bibliographic references according to the type of document

Examples with ACS Nano or Nanoscale style :

Conference proceedings :
Name of the author, Initials of the first name of the author. Title of the article. In *Title of the proceedings*; Publisher : Place of publication; Date of publication; Vol., Page numbers.

Conference proceedings :
Initial of the first name of the author. Name, in Title of the congress proceedings, Publisher, Place of publication, Date of publication, Volume, Pagination.

Book chapter :
Name of the author, Initials of the first name of the author. Title of the chapter. In *Title of the book*; Publisher : Place of publication; Date of publication; Page numbers.

Book chapter :
Initial of the first name of the author. Name, in Title of the book, Publisher, Place of publication, Edition, Date of publication, Volume, Pagination.

What is a bibliography?

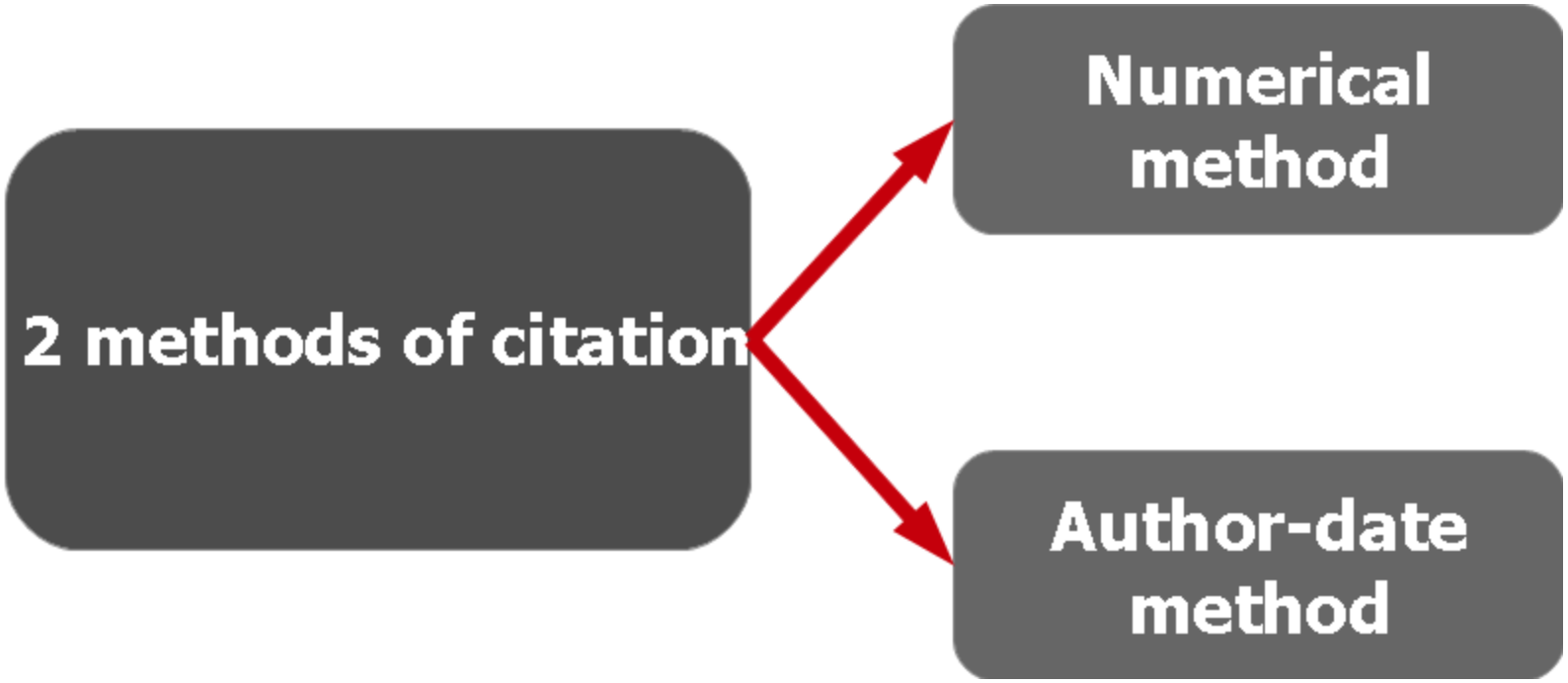
- A bibliography is the list of all the sources you used to write your report

[1] GHADIRY M., ISMAIL R., SAEIDMANESH M., KHALEDIAN M., MANAF A. A.« Graphene nanoribbon field-effect transistor at high bias ». *Nanoscale Research Letters* [En ligne]. 2014. Vol. 9, n° 1, p.1-5. Disponible sur : < http://dx.doi.org/10.1186/1556-276X-9-604 > (consulté le 18 mai 2016)

[2] JABEUR K. *Ambipolar independent double gate FET (Am -IDGFET) logic design: methods and techniques* [En ligne]. Thèse de doctorat. Ecully : École centrale de Lyon, 2012, 42 p. Disponible sur : http://www.theses.fr/2012ECDL0023/document (consulté le 18 mai 2016)

[3] PAPERIN M. « Kelvin-Helmholtz Instability Cloud Structure ». *Brockmann Consult* [En ligne]. Disponible sur : http://www.brockmann-consult.de/CloudStructures/kelvin-helmholtz-instability-description.htm (consulté le 18 mai 2016)

How to cite a source in your work?



Numerical method

Paraphrasing a text

Citation call which refers to the bibliography

L'étude empirique du comportement des fluides est très ancienne, dans la mesure où de nombreux outils techniques reposant sur la mécanique des fluides datent de plusieurs milliers d'années avant l'an 0 : les arcs notamment, mais aussi les puits et les systèmes d'irrigation [1].

La mécanique des fluides est étudiée au moins depuis la Grèce antique du point de vue théorique, notamment par Archimède (287-212 av JC) qui jette les bases de la statique des fluides dans son ouvrage *Des corps flottants. Il est le premier à formuler quantitativement les forces exercées par les fluides : « tout corps plongé dans un fluide reçoit une poussée verticale dirigée vers le haut égale au poids du fluide déplacé »* [2]

Short quotation into quotations marks

Numerical method

Bibliography

[1] D. Huilier : Un peu d'Histoire de la Mécanique des Fluides, 2009. URL : http://www.daniel-huilier.fr/Enseignement/Histoire_Sciences/Histoire.pdf.

[2] Archimède : *Œuvres, Tome III*. Texte établi et traduit par Charles Mugler. Les Belles Lettres, Paris, 1971. ISBN 2-251-00026-7.

[3] H. Van Haren et L. Gostiaux : Annual Report 2010 - Familiarly curved deep sea waves. *Royal Netherlands Institute for Sea Research*, p. 25, juin 2011. ISSN 0165-9162. URL : http://www.nioz.nl/files/Docs%20website%20editor/Het%20Instituut/jaarverslagen/2010%20jaarverslag.pdf.

[4] P. Ariau : Ariau Amazon Towers Hotel : Amazon River meets Rio Negro river near Manaus, mars 2013. URL : http://ariau2014.blogspot.fr/2013/03/amazon-river-meets-rio-negro-river-near.html

Author-date method

Paraphrasing a text

Citation call which refers to the bibliography

L'étude empirique du comportement des fluides est très ancienne, dans la mesure où de nombreux outils techniques reposant sur la mécanique des fluides datent de plusieurs milliers d'années avant l'an 0 : les arcs notamment, mais aussi les puits et les systèmes d'irrigation [Huilier, 2009].

La mécanique des fluides est étudiée au moins depuis la Grèce antique du point de vue théorique, notamment par Archimède (287-212 av JC) qui jette les bases de la statique des fluides dans son ouvrage *Des corps flottants.* Il est le premier à formuler quantitativement les forces exercées par les fluides : « *tout corps plongé dans un fluide reçoit une poussée verticale dirigée vers le haut égale au poids du fluide déplacé* » [Archimède, 1971].

Short quotation into quotations marks

Author-date method

Bibliography

[Archimède, 1971] ARCHIMEDE : *Œuvres, Tome III*. Les Belles Lettres, Paris, 1971. ISBN 2-251-00026-7.

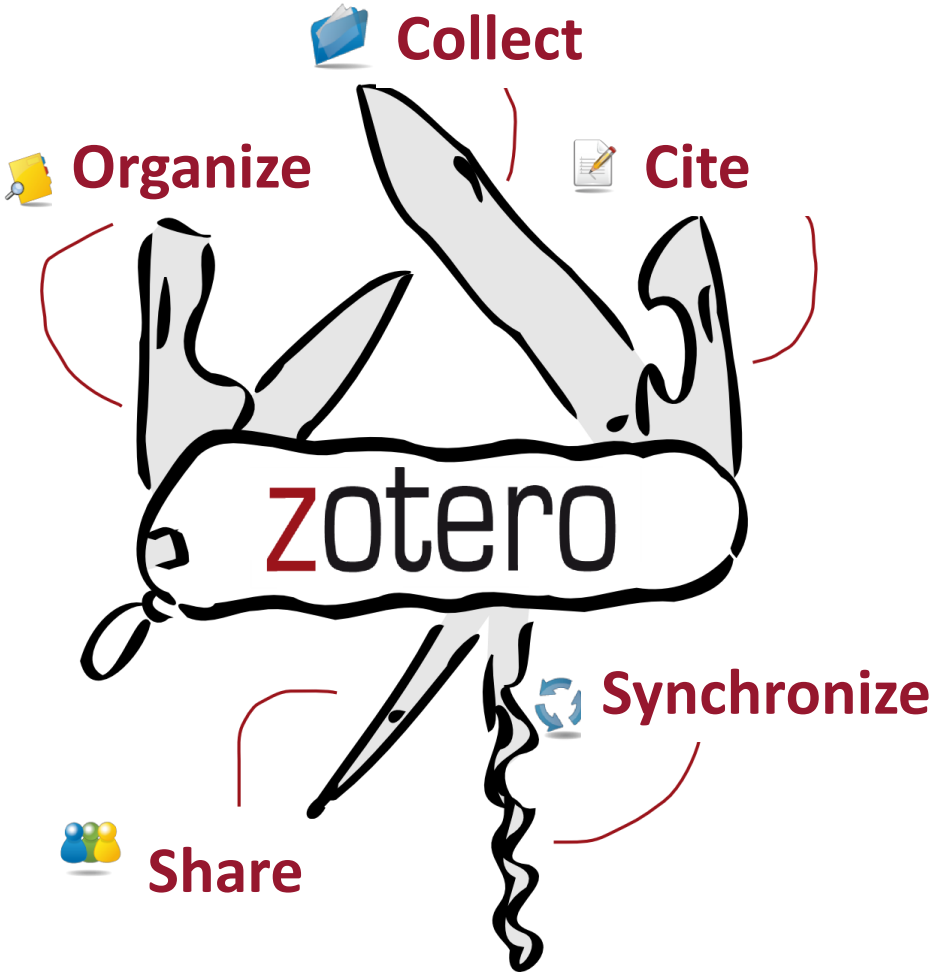
[Ariau, 2013] P. ARIAU : Ariau Amazon Towers Hotel : Amazon River meets Rio Negro river near Manaus, mars 2013. URL : http://ariau2014.blogspot.fr/2013/03/amazon-river-meets-rio-negro-river-near.html.

[…]

[Helmholtz, 1868] H. L. F. HELMHOLTZ : Über diskontinuierliche Flüssigkeitsbewegungen. *Monatsberichte der Königlichen Preussiche Akademie der Wissenschaften zu Berlin*, 23:215, 1868.

[Huilier, 2009] D. HUILIER : Un peu d'Histoire de la Mécanique des Fluides, 2009. URL : http://www.daniel-huilier.fr/Enseignement/Histoire_Sciences/Histoire.pdf.

Zotero : manage and edit your bibliographic references



Zotero : manage and edit your bibliographic references

1. Save your bibliographic references

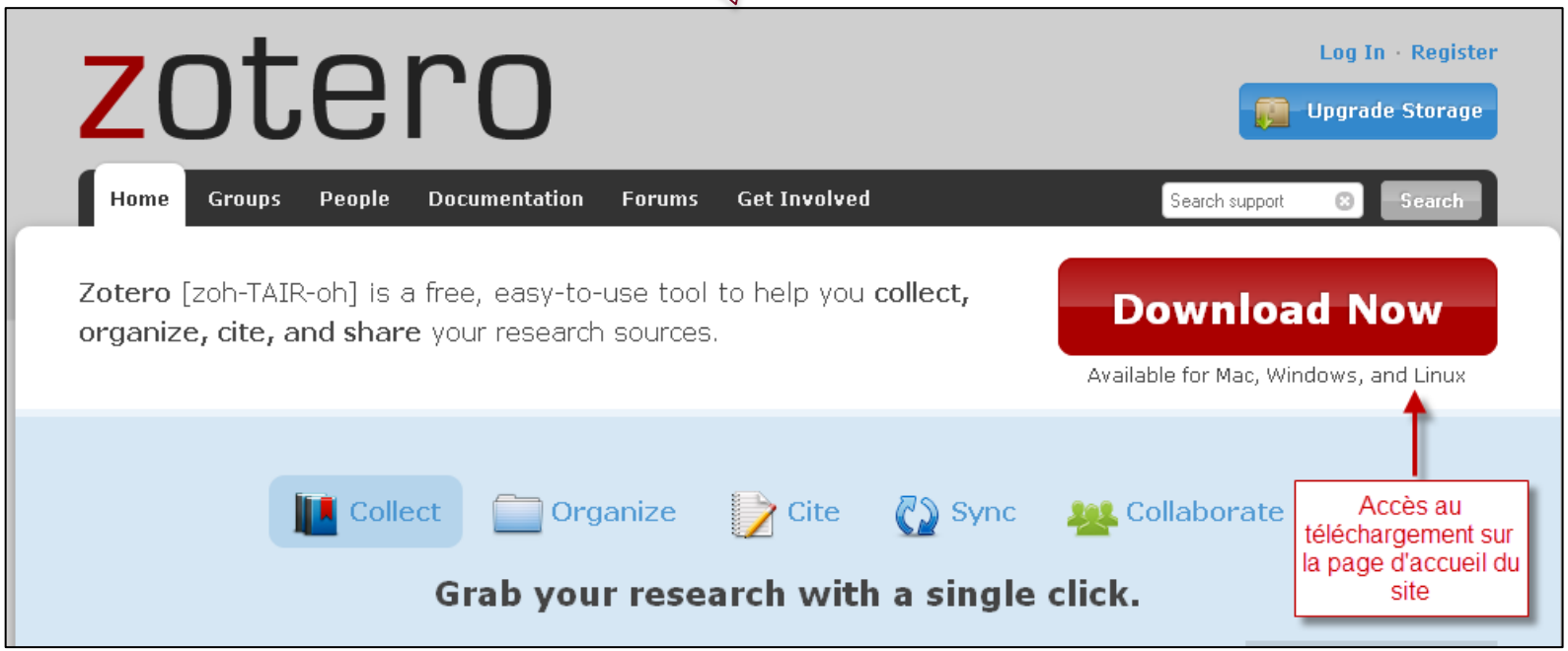
2. Organize and edit your bibliographic references

3. Cite your sources

4. Access your virtual library from everywhere and share it

Download Page

https://www.zotero.org/



Publishing a scientific paper

Scientific publications : production and access

Evaluating scientific publications and researchers : indicators

- Number of publications
- Number of citations
- h-index
- Impact Factor
- Patents resulting from the research
- …

Evaluating scientific publications and researchers : indicators

- Number of publications
- Number of citations
-
- Impact Factor
- Patents resulting from the research
- …

Quantitative and/or qualitative evaluation ?

Evaluating scientific publications and researchers : quotation

« If he applied for a job at CNRS, God would be rejected. He did an interesting manipulation, but nobody has never been able to replicate it.

He explains his works in a big publication, a very long time ago, but it was not even in english and he has never published again. »

Hubert Curien, cité dans LICHTFOUSE Eric. *Rédiger pour être publié*. Paris : Springer, 2012. 105 p. ISBN : 978-2-8178-0288-6