

Link to the evaluation of researchers

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Outline

- Short Bio
- A turning point : Jorge Hirsch's 2005 paper
- A short history of evaluation 1993-2023
- DORA as a cure to schizophrenia?
- How to enter CNRS (in physics) in 2024?

Short Bio: PhD. Theoretical Physics, Paris 1987 ; CNRS researcher, then University professor (Lyon and Grenoble) since 1988.

Research interests: statistical physics materials science and condensed matter physics, numerical methods

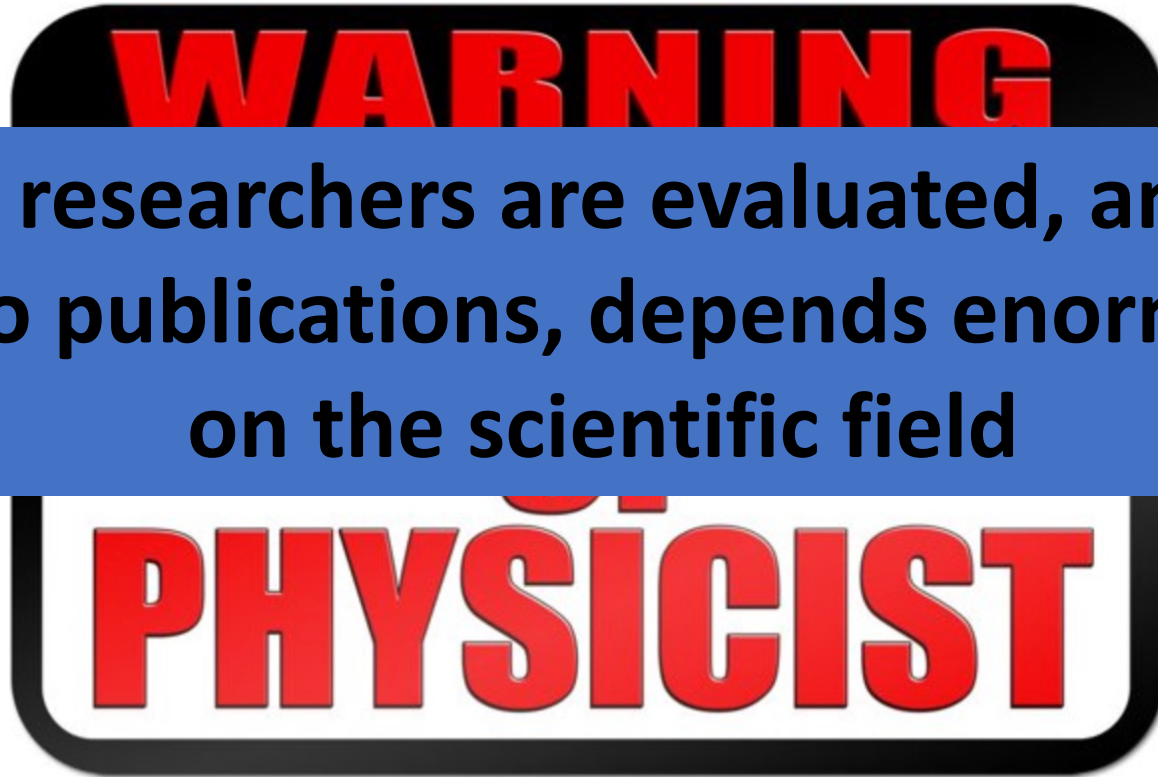
Lab Director: LPMCN (Lyon) from 2006 to 2010 ; LIPHY (Grenoble) from 2014 to 2020

Committees:


- University recruitment committees in condensed matter (Lyon) : 1992-2007
- Conseil national des Universités (National evaluation committee for faculty members) 2007-2015
- Chair of scientific council of ENS Lyon, 2015-2024
- CNRS Section 05 (Condensed matter) since 2021 (Chair)

Editor:

- Europhysics Letters (EPS Journal) (2001-2005)
- Phys Rev. Letters (APS Journal) (Divisional advisory editor, 2013-2019)
- J. Phys Materials (IOP journal) since 2018



How researchers are evaluated, and the link to publications, depends enormously on the scientific field



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A turning point : Jorge Hirsch (a theoretical physicist) introduces the “H index” in 2005

An index to quantify an individual's scientific research output

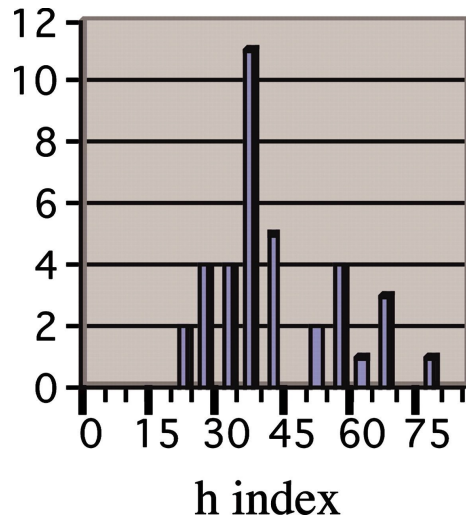
J. E. Hirsch*

Department of Physics, University of California at San Diego, La Jolla, CA 92093-0319

Communicated by Manuel Cardona, Max Planck Institute for Solid State Research, Stuttgart, Germany, September 1, 2005 (received for review August 15, 2005)

I propose the index h , defined as the number of papers with citation number $\geq h$, as a useful index to characterize the scientific output of a researcher.

(i) Total number of papers (N_p). Advantage: measures ductivity. Disadvantage: does not measure important impact of papers.



Histogram giving the number of Nobel prize recipients in physics in the last 20 years versus their h index. The peak is at the h index between 35 and 39.

It can be seen that, not surprisingly, all of these highly cited researchers also have high h indices and that high h indices in the life sciences are much higher than in physics.

.....
Clearly, more research in understanding similarities and differences of h index distributions in different fields of science would be of interest.

.....
In summary, I have proposed an easily computable index, h , which gives an estimate of the importance, significance, and broad impact of a scientist's cumulative research contributions. I suggest that this index may provide a useful yardstick with which to compare, in an unbiased way, different individuals competing for the same resource when an important evaluation criterion is scientific achievement.

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Prehistory 1993-2005

- *Mid 1990s: Arxiv.org (started in 1991) is becoming more widely used in theoretical, then in experimental physics. Not so in other fields – Chemistry, Biology, Materials science – even less in humanities.*
- *Before 2005: all applications are in paper form (2 or 3 copies available) – typically, in a recruitment committee only the referee(s) and the chairperson have full access to the applicant file.*
- *Very strong biases related to the referees => the « unbiased » H index appears as an ideal solution (Scopus, WOS are becoming accessible).*

The rise of bibliometry: 2005-2015

- 2003: First [Shanghai ranking](#) of universities published ; Ministry of science, CNRS, become obsessed with Nature/Science papers, Highly Cited researchers, etc...
- Electronic applications become the rule, all committee members have access to all applications.
- Wifi becomes common : Easy access to publications, and to bibliometric tools (WOS, Scopus), even during committees.
- Some positive aspects, but also appearance of “bad habits”.
- In physics, increasing importance of commercial journals (e.g. Nature Publishing group) as opposed to those edited by scientific societies.
- Order of authors, or impact factor of journals, become important.

2015-present ; Post Dora evolution?

After a few years, many scientists start to realize that the “unbiased” bibliometry introduces a different bias...



The San Francisco Declaration on Research Assessment (DORA) will be 10 years old on May 16, 2023.

Common declaration on research assessment signed by many universities and research organisations (including CNRS and UGA)

[The declaration](#)

2023-... DORA as a cure to researchers schizophrenia?

- Strong efforts from CNRS and other recruitment or promotion committees toward promoting qualitative evaluation. Typically, highlight a few key contributions (applicants), look at the papers and results (committee) and not at the journals or citation metrics.
- Increased awareness in the community that “all that glitters is not gold”.
- Better understanding of the biases in bibliometric indicators, and sometimes attempts to correct them (e.g. normalize according to the field).
- Bad habits are easy to acquire, and difficult to lose.
- Judging from journals rather than content is so easy...
- Ignoring completely bibliometry is not possible, as the information is there.
- Some communities are very reluctant, “number of publications” matters a lot (Chemistry) “Paper in Nature as first author” is the holy grail (Biology).

Entering CNRS in Physics: No unique profile or recipe, committees cover many different sub disciplines which are not directly comparable!

- **Necessary:**

- do good science* during PhD and Postdoc.
- publications in good (for your community) journals.
- explain your main contributions in your report/presentation.
- be convinced of your project.

- **Not necessary:**

- Paper in Nature/Science
- Huge publication list

**disruptive, original...(BvT in previous talk)*

