Research Trends

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Measuring your progress

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Behind the data

Measuring your progress

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Researchers planning their next career step, especially in the early stages, need to be able to demonstrate their value in many ways. The gold standard, of course, is getting work published and cited in the peer-reviewed literature, but may also include acknowledgements in others' work, grant applications, conferences, reviewing manuscripts, blog posts (and the attention they receive), social networking, and establishing collaborations with colleagues.

When being assessed, quality is everything *(1)*. A prospective employer or tenure committee is less interested in how much you have published than in the quality of what you have published, as this is a good indicator of your future prospects of producing more outstanding research in the future.

Various metrics may be used to measure both the quality and the quantity of your research activity, and being aware of these, and your standing based on these metrics, is invaluable when planning your career path, no matter how much time has passed since the award of your Ph.D.

Metrics to get ahead

The number of publications and the number of citations they have received are good measures of the impact of your work, particularly when you are just getting started and it is still feasible to assess these publications individually.

The Impact Factor (IF), along with newer journal metrics, such as **Eigenfactor**, SCImago Journal Rank (**SJR**) and the Source Normalized Impact per Paper (**SNIP**) may also be used to assess your publications based on the quality of the journal in which they were published.

There are also metrics that can be used to assess authors directly. The *h*-index proposed by the physicist **Jorge Hirsch**, is designed to assess both your productivity and the impact of your work. Put simply, it states that you have an *h*-index of n when you have n papers with at least n citations.

Databases like Scopus provide an effective way of assessing yourself. Not only can it provide a list of your publications, how well cited they are and who has cited them (a great boon for future collaborations) and tools for giving SNIP and SJR rankings for journals in which you have published, it will also determine your *h*-index, or indeed, the *h*-index of any set of papers.

Keep a level head

One final thought. In the scramble to achieve quick successes and prove yourself by scoring citations it is important not to forget why you entered science in the first place. All competitive fields unfortunately suffer from a minority of cheats who believe winning points is more important than professional conduct. For instance, a recent investigation found that up to a third of Chinese scientists admit dubious practices, such as falsifying results or plagiarism *(2)*, in the race to succeed. But winning citations for fraud will not enhance your career in the long term. Not all citations are good citations, after all

Useful links:

***Charting a course for a successful research career. A guide for early career researchers*, by Professor Alan M. Johnson**

References
(1) Bourne, P.E. (2005) "Ten simple rules for getting published", *PLOS Computational Biology*, 1, pp. 341–342.
(2) Qui, J. (2010) "Publish or perish in China", *Nature*, 463, pp. 142–143.