correspondence

Let's stop playing with numbers

It is becoming increasingly fashionable to play with numbers, or letters representing numbers (for example, *h* and *w*), to measure the performance of a scientist or a scientific journal. Developing algorithms to calculate such numbers is becoming a science in itself, with each author claiming that his or her metrics measure better than others. The controversy will probably continue into the foreseeable future, as scientific administrations want to reduce science performance to simple numbers to measure the impact of each project funded. Many journals and scientists have themselves joined the game by proposing and comparing different metrics, as though it were possible to find a magic number to represent every aspect of scientific advance.

The latest of these metrics are the *w* index, published recently by *EMBO reports* (Zhang,

2009) and the Eigenfactor™, now used by ISI Thomson-Reuters and trumpeted as being better than the impact factor (Fersht, 2009). A search in any database will give us a flurry of articles that propose even more metrics with which to measure science.

So, let us go back to the basic question: is it possible to measure the contribution, even relative, of a scientist in any particular field without bias by relying on metrics? The answer is no. The alternative solution is so obvious that one wonders why various agencies, scientific communities and journals—among others—have spent so much energy looking for metrics. In short, the solution is the review process, conducted by peers in both the funding and publishing systems, which already has the most essential role in assessing scientific quality and thus advancing science. Who among us has ever relied solely, or even mainly on indexes or citations to help us make a decision when reviewing a project or a manuscript submitted to a journal?

I would argue that none of us rely on this type of data at all. Indeed, those who propose a new index often recognize that it cannot replace the peer review system. It is therefore time to stop these futile efforts in searching for a magic number—which does not exist, by the way—and instead to rely on and trust the judgement of our peers to measure the scientific achievements of a scientist or the relevance of a journal.

REFERENCES

- Fersht A (2009) The most influential journals: impact factor and Eigenfactor. *Proc Natl Acad Sci USA* **106**: 6883–6884
Zhang C-T (2009) A proposal for calculating weighted citations based on author rank. *EMBO Rep* **10**: 416–417

Cheng-Cai Zhang is at Aix-Marseille Université and Laboratoire de Chimie Bactérienne-CNRS, Marseille, France. E-mail: cczhang@ifr88.cnrs-mrs.fr

doi:10.1038/embor.2009.133