

# Review of: "Measuring researchers' success more fairly: going beyond the H-index"

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Potential competing interests: No potential competing interests to declare.

**Preamble.** The manuscript presents an evaluation method of scientific performances of scientists taking into account quantitative and qualitative criteria that are not considered in H-index, including the number of co-authors, their different contributions and citation level (exempt from self-citations) and citing journals of the manuscript. Alternative ways to H-index are encouraged for fairer evaluations of scientific performances and for more personalizations of co-authors in common publications.

**Comments.** The method is based on subtractive (additive) model through which co-authors are attributed to gradually decreasing scores in relation with their decreasing contributions to a manuscript. The approach is original, mathematically well-presented and illustrated by an application example. I recommend its publication after the following minor revisions:

1. The choice criterion of the arithmetic model should be initially argued.
2. The term "weight" is generally used for multiplicative (divisive) terms that don't appear in the basic arithmetic (additive) model applied here. The term "score reduction" is clearly explicit in the model, but the weighting should be either further clarified or substituted.
3. The author talks about the first and last authors as the most contributive in manuscripts. Corresponding author is who has the most control of manuscript. Therefore, he/she is the most contributive author; he/she can be in first, last or intermediate rank among the co-authors' list.
4. In pages 3 and 4, the variable number  $n$  was confusedly used for both the total number of co-authors and for the number of citing journals.
5. In Box 1, the term  $n$  in " $yn$ " is a typo: it should be " $y$ " rather than " $yn$ ".
6. In page 4, the sentence "The final equation in Box 2 cannot be applied only when there is a single author." It is not clear why? The equation of Box 2 provides the linear reduction score  $x$  that will be applied for  $n$  hierarchically decreasing contributive authors. Please further clarify the sentence or change it.
7. Some ideas could be added concerning the needed subjective evaluations of scientific potentials and performances:
  - 7.1) Ability of scientists to carry out publications with minimal numbers of co-authors leading to high productivity demonstrations.
  - 7.2) Development (publication) of new approaches for system studying, or discovering of new systems could represent genius evaluation criteria compared with highlighting of multiple structural and functional aspects of previously discovered systems.

- 7.3) It is important to develop evaluation ways to discern between (negative) effects of authors' insertions in works and (positive) cooperation and competences exchanges between researchers. For that, **population studies** of the full sets of publications of separated authors can provide deep responses to this multifactorial question on publication trends (systematic names' apparitions vs diversified works' realizations).