

# The metric wave

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# Metrics are much used

- Impact
  - Prestige
  - Citations
  - IF
  - H-index
  - Rankings
- Evaluation
  - Often uses metrics as a “stand-in” or proxy for research quality

# Overlooks

- The many problems of metrics, e.g.
  - Citations measures only science's own re-use of science
  - A highly skewed and small sample of sources
    - Google H-index  $\geq$  Scopus H-index  $\geq$  WoS H-index
  - Much manipulated
    - By authors, journals and publishers
  - Cannot always be accurately reproduced
  - Faulty mathematics
    - IF is an average in an extremely skewed distribution

# Results in

- Richer publishers
  - They own the high-ranking journals
- Poorer science
  - Science pay the profits of publishers
  - TA makes science work less efficiently
    - Literature access costlier  $\Rightarrow$  access to less literature
- Making science less valuable for society
  - Science not fully used in society

# And, more importantly, in

- Overhiring, promoting and financing mediocre research
- Overlooking excellent research
- Metrinecrosis
  - The slow withering away and death of science by metrics poisoning



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# So what do we tell the researchers?



- One way lies OA
  - Solidarity with poorer researchers
  - Making a better society and better science
  - Fulfilling the function of science
  - The right thing to do!

- The other way lies TA
  - A job, promotion and tenure
  - Research financing
  - Respect from colleagues
  - Reality ...

# Time to mend our ways!

- Research evaluation means that!
  - Evaluating the research
    - That's hard work
  - Not finding out where it was published
    - Anyone could do that ...
- We need to change all kind of evaluation processes to become evaluation, not a looking up of arbitrary numbers!



# Impact factor vs actual citations

- Studied for one author over 17 years
  - 70 articles
- Correlation between IF and actual citations was 0.016

«As responsible scientists we should insist on the same quality standards for scientific evaluation as we require of the scientific work itself.»

Seglen, P.O. 1989. «From bad to worse: evaluation by Journal Impact» *Trends in Biochemical Sciences* 14(8), 326–327. [http://doi.org/10.1016/0968-0004\(89\)90163-1](http://doi.org/10.1016/0968-0004(89)90163-1)



# Evaluation

- Evaluation means assessing the value of content
- Evaluation can be informed, but not replaced, by various metrics
  - Not IF, it is not a content or author metric
  - And content quality causes IF, IF does not cause quality
  - Citations not always a sign of quality
- Alternative metrics for wider impact and societal interest
  - An evolving field
- DORA – The San Francisco Declaration on Research Assessment
  - <http://www.ascb.org/dora/>



# Thank you for listening

– I'll be even happier if you actually do something about how you evaluate!

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