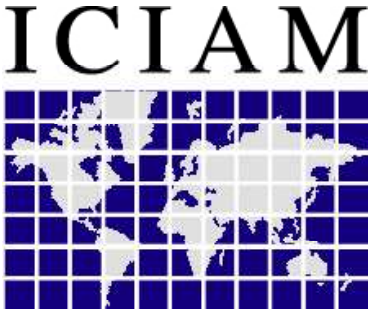

International Council for Industrial and Applied Mathematics

International Mathematical Union

Institute for Mathematical Statistics

Press Release
For Immediate Release

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http://www.iciam.org/

The International Council for Industrial and Applied Mathematics the Mathematical Union and the Institute for Mathematical Statistics announce **Citation Statistics report**:

Numbers with a number of problems

Wednesday, 11 June 2008—The International Council on Industrial and Applied Mathematics (ICIAM), International Mathematical Union (IMU) and the Institute of Mathematical Statistics (IMS) today released the Citation Statistics report. Citation-based statistics, such as the impact factor, are often used to assess scientific research, but are they the best measures of research quality? The report addresses the use of citations in assessing research quality – a topic that is of increasing interest throughout the world's scientific community. The report is written from a mathematical perspective and strongly cautions against the over-reliance on citation statistics such as the impact factor and h-index. These are often promoted because of the belief in their accuracy, objectivity, and simplicity, but these beliefs are unfounded.

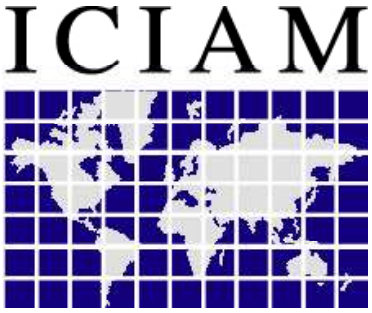
Among the report's key findings:

- ♣ Statistics are not more accurate when they are improperly used; statistics can mislead when they are misused or misunderstood.
- ♣ The objectivity of citations is illusory because the meaning of citations is not well-understood. A citation's meaning can be very far from "impact".
- ♣ While having a single number to judge quality is indeed simple, it can lead to a shallow understanding of something as complicated as research. Numbers are not inherently superior to sound judgments.

The report promotes the sensible use of citation statistics in evaluating research and points out several common misuses. It is written by mathematical scientists about a widespread application of mathematics. While the authors of the report recognize that assessment must be practical and that easily-derived citation statistics will be part of the process, they caution that citations provide only a limited and incomplete view of research quality. Research is too important, they say, to measure its value with only a single coarse tool.

The report was commissioned by the International Mathematical Union (IMU) in cooperation with the International Council on Industrial and Applied Mathematics (ICIAM), and the Institute of Mathematical Statistics (IMS). It draws upon a broad literature on the use of citation data to evaluate research, including articles on the impact factor (the most common citation-based statistic) and the h-index along with its many variants. The work was also based on practices as reported from mathematicians and other scientists from around the world.

IMU, ICIAM, IMS



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About the International Council for Industrial and Applied Mathematics:

ICIAM is an international non-governmental and non-profit scientific organization, with the purpose of promoting international cooperation in mathematics in particular with an emphasis in applied mathematics and applications in industry. For more information, see the Council's web site at http://www.iciam.org/.

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