



Academia Europaea & Wenner-Gren Foundations

Bibliometrics: Use and Abuse in the Review of Research Performance

**An international symposium to be held
Thursday 23 - Saturday 25 May 2013
at the Wenner-Gren Center, Stockholm, Sweden**

Programme

Background for the symposium

'We are deeply convinced that human ingenuity and creativity are beyond all conceivable quantitative measure. [...] The present hype of bibliometry made it plainly obvious that judging the quality of science publications and science projects by bibliometric measures alone is inadequate. [...] Start reading papers instead of merely rating them by counting citations!'

Richard R. Ernst, 'The Follies of Citation Indices and Academic Ranking Lists', *CHIMIA* 64 (2010) 90.

When a Nobel Prize Laureate uses such strong language, the scientific community and science policy makers should pay attention. While private companies, publishing houses, consultancies and the boards of scientific institutions are organizing *perpetuum mobiles* of evaluations, the scientific community gets increasingly impatient with the heavy burden this whole evaluation carousel puts on *their* shoulders. While the investment in working time and money is evident, the effects are all but transparent and the methodological controversies are far from solved. The main objection surely is the reduction of evaluation to sheer metrics, as a proxy to the desire for a standardized evaluation of a great variety of achievements.

In 2011, the AE and the Wenner-Gren Foundations organized a symposium on 'The role of trust in higher education', in which 'the increasing call for accountability' was one of the four themes. The present proposal for a symposium delves further into the culture of accountability, and the techniques to establish indicators of quality on various levels, from the individual research paper to whole universities.

Measuring vs. Quality

In biosciences and most of the natural sciences, bibliometry is a well-established practice, widely accepted as a tool in the adjudication of scarce resources, on a personal and an institutional level. Just as one of the tools, certainly not the exclusive one, as it tends to become. It rests on the assumption that peer review is the best method of quality assessment, and that this is established by the reception of publications by the specialists, appearing in citations. Systemic errors and fallacies such as self-quotation, mutual referencing, and negative references may be filtered out, especially in domains with high numbers of researchers. Standardized publication cultures in international journals and a global scientific forum favour the applicability of citation indices. They can be practiced for the ranking of journals, as well as for that of research groups and individual researchers. Collective authorship however raises the question of each individual's role.

Several fundamental questions remain to be discussed about the prevailing review systems.

1. The main surely is the tension between *inherently qualitative* characteristics such as originality and creativity, and quantification. In how far are the current peer review systems favouring fashionable and standard research, or able to recognize truly groundbreaking ideas?
2. Further, the current bibliometric systems are *not generally applicable*. Their use for large multidisciplinary organizations such as universities is therefore inadequate. Several disciplines, such as engineering, mathematics, most of the social sciences and humanities work with other publication cultures because of the different character of their societal mission, forum, and target groups. This implies a far greater variety of publication formats in patents, reports, national journals, books, and the use of a great number of national languages. In these disciplines. Anglophone researchers may even be uninformed about a considerable body of knowledge published since long in other languages.
3. Many *fallacies* of bibliometrics have been shown in publications. Different systems are circulating, of which the h-index is the most valid for the sciences. However, various tendencies of the joint actions of ambitious authors, profit-seeking publishing houses, specialized research bureaux, and science administrators lead to systemic distortions.
4. The pressure towards public accountability nevertheless leads to an *ever-increasing use* of various forms of peer review and rankings in order to determine quality. Given the amount of the publications under review, and the scope of evaluation committees on an institutional level, reviewers are materially unable to assess the quality of research directly, and have to base their judgements on external quantitative indicators. Numbers are taking the command. There is also evidence that institutions are involved in the politics of metrics.
5. The current system to publish as many as possible ‘peer reviewed’ articles in top-journals has strongly increased the publication pressure, and this can have an impact on the kind of research proposals that are submitted. Indeed, it can lead to the tendency from the side of the scholars to write and submit proposals that have the potential of resulting quickly in publishable papers without much consideration for innovation and creativity. The system does certainly not strongly encourage to go for open-ended and “risky” proposals.
6. Finally, it is important to discuss to what extent evaluations should be used. It is indeed the best system we have, but there is also the risk that the evaluations will hamper research rather than stimulate it and raise the quality. The reason is that the evaluation work takes time away from research. Some people argue that in the life of scholars today too much time is taken up by evaluating others and being evaluated by others.

The Critique in a Nutshell

- Researchers today face an overload of evaluation activities of all kinds,
- Time pressure that may jeopardize the quality of assessments,
- A heavy bias favouring the English-speaking world,
- A heavy bias disqualifying humanities and social sciences which do not fit in the system,
- An increasing imbalance between the costs of the evaluation system, the advancement of science, and the profits made by private companies on this basis.

The format of the Symposium

The meeting in Stockholm in May 2013 should be looking forward to improve the acceptance of the evaluation system, to reduce its costs and enhance its function for the advancement of all scientific disciplines. Ideally, it should lead to recommendations to the various actors in this field.

As in the 2011 symposium, we aim at four thematic sessions with three speakers each; they are allotted 30 minutes each, 10 for a discussant, and 20 for the general discussion.

PROGRAMME

Convenor:

Wim Blockmans, Leiden, wimblockmans7@gmail.com

Organising Committee:

Erik De Corte, Leuven, erik.decorte@ppw.kuleuven.be

Lars Engwall, Uppsala, lars.engwall@fek.uu.se

Jan Reedijk, Leiden, reedijk@chem.leidenuniv.nl

Denis Weaire, Dublin, dweaire@tcd.ie

Thursday 23 May

18.00-21.00 Reception with buffet dinner

Registration

Friday 24 May

09.00-09.30 Welcome and introduction

Lars Walløe, Oslo, President of Academia Europaea, lars.walloe@medisin.uio.no

Britt-Marie Sjöberg, Stockholm, Scientific Secretary of the Wenner-Gren Foundations,

britt-marie.sjoberg@swgc.org

Wim Blockmans, Leiden, symposium convenor, wimblockmans7@gmail.com

09.30-13.00 **Session 1: Instruments of Measurement**

Chair: Jan Reedijk, Leiden, reedijk@chem.leidenuniv.nl

09.30-10.30 Ton van Raan, Leiden, vanraan@cwts.leidenuniv.nl

Sense and Nonsense of Citation Analysis: Possibilities to Improve Impact Measurement

Ton van Raan is professor of Science Studies at Leiden University and was director of CWTS until 2010. His work is focusing on bibliometric analysis, mapping of science, citation networks, science as self-organizing system, knowledge diffusion.

10.30-11.00 Coffee break

11.00-12.00 Jane Grimson, Dublin, jane.grimson@tcd.ie

Measuring research impact: not everything that can be counted counts, and not everything that counts can be counted

Dr. Jane Grimson is an expert in health service data bases.

12.00-13.00 Giovanni Abramo, Rome, Italy giovanni.abramo@uniroma2.it

Research Evaluation: Improvisation or Science?

Giovanni Abramo is scientist at the National Research Council of Italy and teaches Strategic Management at University of Rome Tor Vergata. His research interests focus on research evaluation and technology transfer. He is founder and President of Research Value, a spin-off company in the business of research evaluation.

13.00-14.00 Lunch

14.00-17.30 **Session 2: Rankings**

Chair: Denis Weaire, Dublin, dweaire@tcd.ie

14.00-15.00 Conor O'Carroll, Dublin, conor.ocarroll@iua.ie

The Dark Arts of Rankings

Dr. Conor O'Carroll is director research of the Irish Universities Association.

15.00-16.00 Linda Wedlin, Uppsala, linda.wedlin@fek.uu.se
Rankings of Modern Universities: How global comparisons matter
Dr. Linda Wedlin is the author of the book *Ranking Business Schools*, 2006.

16.00-16.30 Coffee break

16.30-17.30 Michel Gevers, Louvain-la-Neuve, michel.gevers@uclouvain.be
Scientific impact versus investments: a country by country analysis
Michel Gevers is emeritus professor at the Institute of ICT, Electronics and Applied Mathematics of the Université catholique de Louvain. He is doctor honoris causa of the Free University of Brussels and the University of Linköping.

17.45 Buses leave for boat cruise and dinner

21.00 Return to Stockholm, where buses are waiting

Saturday 25 May

09.00-12.30 **Session 3: Humanities and Social Sciences**
Chair: Wim Blockmans, Leiden, wimblockmans7@gmail.com

09.00-10.00 Pol Ghesquière, Leuven, pol.ghesquiere@ppw.kuleuven.be
The objectives and design of the Flemish Academic Bibliographic Database for the Social Sciences and Humanities
Pol Ghesquière is Professor in Learning Disabilities and Special Education at the University of Leuven. He is Manager of the Humanities and Social Sciences Doctoral School and Research Coordinator of the Humanities and Social Sciences Group of the University of Leuven. He is also President of the Panel for the construction of the Flemish Academic Bibliographic Database for the Social Sciences and Humanities.

10.00-10.30 Coffee break

10.30-11.30 Christine Musselin, Paris, c.musselin@cs0.cnrs.fr
The use of indicators in French universities
Professor Christine Musselin is director of the Centre de Sociologie des Organisations at the Institut des Sciences Politiques de Paris and author of *Liberté, responsabilité et centralisation des universités*, 2012.

11.30-12.30 Milena Žic Fuchs, Zagreb, mzicfuch@ffzg.hr
Bibliometrics: Use and Abuse in the Humanities
Milena Žic Fuchs is Professor in English linguistics and Chair of the Standing Committee for the Humanities of the European Science Foundation. In this quality she was closely involved in setting up the European Reference Index for the Humanities.

12.30-13.30 Lunch

13.30-17.00 **Session 4: Journals, Editors and Publishers**
Chair: Erik De Corte, Leuven, erik.decorte@ppw.kuleuven.be

13.30-14.30 Jan Reedijk, Leiden, reedijk@chem.leidenuniv.nl
The value and accuracy of key figures
Professor Jan Reedijk was the scientific director of the Leiden Institute for Chemistry. He has specialized in metal coordination chemistry and metal applications in medicine and the environment, and has also published on bibliometric analyses.

- 14.30-15.30 Nicola Gulley, Bristol, nicola.gulley@iop.org
Metrics and Evaluation: A publisher's perspective
Nicola Gulley completed a PhD in atomic and molecular photoionisation. She is currently the Editorial Director for IOP Publishing. She has also worked as publisher on some of our major journals and she was involved with the launch of IOP Publishing's first open access journal, *New Journal of Physics*. In addition to responsibility for the journals within IOP Publishing Nicola also works closely with our overseas editorial offices.
- 15.30-16.00 Coffee break
- 16.00-17.00 Lars Engwall, Uppsala, lars.engwall@fek.uu.se
On the quality of quality assessments
Lars Engwall, is a senior professor of management at Uppsala University, Sweden. His research has been directed towards institutional change as well as the production and diffusion of management knowledge. Among his recent publications are: *The University in the Market* (ed. with Denis Weaire, 2008), *Reconfiguring Knowledge Production* (ed. with Richard Whitley and Jochen Gläser, 2010), and *Scholars in Action: Past-Present-Future* (ed. 2012).

Discussant: Peter Goelitz, Editor-in-chief, Angewandte Chemie, pgoelitz@wiley-vch.de
- 17.00-18.00 **Concluding Session**
Chair: Lars Engwall

Panel experts:
Stefano Fantoni, president of the Italian Research and Universities Evaluation Agency, presidenza@anvur.org
Peter Goelitz, Editor-in-chief, Angewandte Chemie, pgoelitz@wiley-vch.de
Christine Musselin, Paris, c.musselin@cso.cnrs.fr
Taj Panesor, Institute of Physics, London, tajinder.panesor@iop.org

References

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- Cavalli, Alessandro, ed., *Quality Assessment for Higher Education in Europe*. London, 2007.
- Molinié, Antoinette & Bodenhausen, Geoffrey, "Bibliometrics as Weapons of Mass Citation", *Chimia* 2010, 64, pp. 78-89.