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## Preface

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The conference “Bibliometric Analysis in Science and Research” was held at Jülich (Germany) in November 2003. The conference was organised and hosted by the Central Library of Research Centre Jülich. More than 150 experts in bibliometrics/scientometrics and information science attended the meeting.

The main objective of the conference was to shed light on the applications, benefits and limitations of evaluative bibliometrics in a policy-relevant context by gathering together those actors in the scientific environment who are concerned with bibliometric analysis or who are confronted with its results. Apart from important issues of the applicability and limitations of bibliometric analysis in science and research, the discussion also concerned opportunities for implementing bibliometric analysis as a service offered by libraries. In view of decreasing public funds for science and research, increasing outsourcing and the demand for more transparency in science and research, scientific institutions are fulfilling their obligation to implement ‘standardised detection methods’ in order to demonstrate how productive, efficient and well-regarded their work is. The amount of third-party funding, the number of patent applications and visiting scientists, as well as other parameters, and last but not least the number of publications and their reception by the scientific community, are indicators for allocating funds more efficiently and objectively. The conference continues in the tradition of previous conferences held by the Central Library of Research Centre Jülich which drew attention to new trends and possible new business areas and services for information facilities.

Altogether nineteen contributions representing a broad spectrum of discussion papers, application and case studies were presented. The papers reported on the concrete transfer of know-how with respect to the basics of bibliometric analysis, examples of best practice from other countries and experience obtained by experts already applying bibliometric analysis in their institutions. The editors of this special issue for the journal *Scientometrics* have decided to select six discussion papers reporting the German experience in the application of bibliometrics in a policy-relevant context. These papers are concerned with the opportunities and limitations of bibliometric indicators and with the experience gathered in applying quantitative methods to research funding in Germany, and the contributions thus reflect the whole spectrum of the on-going debate about the value of these indicators for and their impact upon science policy and research management.

The keynote speech by Peter Weingart focuses on the role of bibliometric indicators in the context of science policy and discusses their validity and reliability in the evaluation of institutions and individuals.

The paper by Anthony van Raan gives a critical review of application practices of bibliometrics in research evaluation. He points out that it is not necessarily the data producer or commercialisation that is the root of inappropriate bibliometric application, but science policy makers and even scientists themselves are responsible for the sometimes inappropriate quality of bibliometric analyses. Van Raan also stresses that the use of advanced bibliometric indicators parallel to peer-based evaluation procedures might substantially improve decision-making in the context of scientific activity. Finally, he discusses the most important technical and methodological problems in the process of building advanced bibliometric indicators.

Roland Wagner-Döbler describes a complex system of input, output and efficiency indicators. He comes to the conclusion that bibliometrics must not be considered a mere service tool for science and technology, and also points out future perspectives in the development of bibliometrics.

The contribution by Nancy Bayers demonstrates the use of bibliometric macro- and meso-indicators with the example of Germany.

The position of the Volkswagen Stiftung, a private research-funding foundation in Germany, was presented by Simon Sommer. His contribution discusses the way in which bibliometric analysis can help private science sponsors in their work, where the practical limitations of this support are to be found, and also mentions desiderata on the part of private scientific foundations. In this context, special consideration is given to the possibilities of improving quality and of progress monitoring, and above all to the feasibility limits (staff and financial resources, the mission of the foundation, tax issues, operationalisation of results).

Jürgen Goebelbecker from Research Centre Karlsruhe reports on the experiences of a member of the Helmholtz Association of National Research Centres against the background of the newly developed programme-oriented funding. In this connection, the assessment of publications by the individual Helmholtz Centres and research groups is playing an increasingly significant part. The contribution reports on the partially formalised system that has been established and presents initial experience from the first round of evaluations.

The editors of this dedicated issue hope that the selected discussion papers reporting on the German experience will stimulate further constructive discussion about the use and impact of bibliometric indicators in science policy and research management in the international context as well.

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