“In numbers we trust?” On the impact of impact factors and other metrics on scientific publishing and careers

Reinhard König
Leibniz Institute for Neurobiology
Magdeburg, Germany

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Abstract

Originality, significance, clarity, and exactness ought to be key indicators in evaluating research. The assessment of scientific productivity and quality, however, is a difficult task: not only are the commonly used measures crude, but in many cases they are not even designed for this purpose. Further, metrics such as the Journal Impact Factor and the Hirsch Index are eagerly, universally, and uncritically used as performance predictors. They have a bearing on the filling and prolongation of academic positions, on the acceptance or rejection of grant proposals, and even on the evaluation of departments or individual institutes. In this presentation, I will introduce the most relevant metrics used in scientific publishing, demonstrate the risks of their inappropriate use, and signpost potential ways out of this dilemma.

About the presenter

Reinhard König received the Ph.D. degree and the habilitation degree in experimental physics from the Department of Physics, University of Bayreuth, Germany in 1993 and 2000, respectively. Since 2002, he has been working with the Special Lab Noninvasive Brain Imaging at the Leibniz Institute for Neurobiology (LIN), Magdeburg, Germany, and has been head of the Research Group Comparative Neuroscience at LIN since 2020. He is also a docent at the Faculty of Natural Sciences, Otto von Guericke University Magdeburg. His current research interest is in the dynamics of brain activation with a focus on the auditory cortex, which he studies using magnetoencephalography and computational modelling. Further, he is concerned with issues related to leadership and communication competences in organisations and their impact on the organisational culture and future viability.