Keynote Speech VI

PROFESSOR VIVEK KUMAR SINGH

Professor
Department of Computer Science
University of Delhi, Delhi – 110007, India
https://viveksingh.in/



About Prof Vivek Kumar Singh

Dr Vivek Kumar Singh is a Professor & Head of the Department of Computer Science and Dean of the Faculty of Mathematical Sciences, University of Delhi, Delhi, India. Prior to this, he was a Professor & Head of Department of Computer Science at Banaras Hindu University, Varanasi, India. He is active in research and has published about 165 research papers with more than 4000 citations, obtained ten extramural research projects (total funding more than Rs 6.00 Crore INR) and supervised 17 doctoral and more than 100 master theses. He is a Senior Member of IEEE and ACM and a Life member of CSI, IETE and ISSI. He has also been elected as a Board Member of the International Society for Scientometrics and Informetrics (ISSI) for 2023-2027. More details about the speaker can be found at: www.viveksingh.in

Title and abstract:

Institutional Research Expertise and Diversity Assessments through Novel Indicators

During the last several decades, various indicators and proxies to measure research output and their impact for different units have been proposed. These measurements may target individuals, institutions, journals, countries, etc. Institutional-level assessment is one such area that has always been and will remain a key challenge to many stakeholders. Various international rankings and bibliometric indicators have been explored in the context of institutional assessments, though each has certain associated criticisms. Most of the existing indicators, including htype indicators, mainly focus on research output and/ or citations to the research output. They need to reveal the expertise of institutions in different subject areas, which is crucial to know the research portfolio of an institution. Our team has introduced a set of expertise measures such as x and x(g) to determine institutions' expertise concerning a specific discipline/field, considering strengths in different finer-level thematic areas of that discipline/field. Subsequently, an adaptation of the x-index was proposed to determine the overall scholarly expertise of an institution considering its publication pattern and strength in different coarse thematic areas. This indicator helps to identify the core expertise areas and the diversity of the institution's research portfolio, which in turn can be useful for various purposes ranging from institutional benchmarking to thrust area-based research funding decisions.

Fifth International Conference on Science and Technology Metrics (STMet 2024)

References:

- 1. Nandy, A., Lathabai, H. H., & Singh, V. K. (2024). Xd-index and its variants: a set of overall scholarly expertise diversity indices for the research portfolio management of institutions. Scientometrics, 1-26.
- 2. Nandy, A., Lathabai, H. H., & Singh, V. K. (2023). An Expertise-based Framework for Research Portfolio Management of Institutions at coarse-and fine-grained levels. In 27th International Conference on Science, Technology and Innovation Indicators (STI 2023). International Conference on Science, Technology and Innovation Indicators.
- 3. Lathabai, H. H., Nandy, A., & Singh, V. K. (2022). Institutional collaboration recommendation: An expertise-based framework using NLP and network analysis. Expert Systems with Applications, 209, 118317
- 4. Lathabai, H. H., Nandy, A., & Singh, V. K. (2021). x-index: Identifying core competency and thematic research strengths of institutions using an NLP and network based ranking framework. Scientometrics, 126(12), 9557-9583.