

## **Interactive activities of researchers captured in research impact assessment**

The paper brings attention to two concurrent traits of the science system showing both higher levels of internationally collaborative research, and increased application of bibliometric measures for impact assessment. Hence, a renewed scholarly discussion about metrics of research impact assessment also needs to include studies of knowledge networks and shed some light on key concepts and methods for analysis of relational data (such as co-authorship and citations), citation network analysis (co-citation and bibliographic coupling) and methods for assessing research impact based on fractional counting as opposed to other methods emphasising network-based views of knowledge production and transfer. The empirical basis for discussing these methods builds on the project Research Innovation and Network Analysis targeting Sustainability (Rinas). This study uses bibliometric data and network analysis in combination with a case study approach for analysis of knowledge networks in application of nanoscience and technology for development of renewable energy and environmental technology solutions. Results and current research are used to discuss central concepts, outlined above, and includes studies of interdisciplinary citation networks at the level of the research group (Larsen, 2007a), methods that mirror each other in visualizing citation networks among documents/authors/journals (Larsen, 2007b), researcher mobility and knowledge diffusion by attraction (Larsen, Forthcoming), and studies of knowledge flows and relational links (Larsen, Submitted).

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