

# Systematic retrieval of scientific literature based on citation relations: Introducing the CitNetExplorer tool

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# Background

- Background in bibliometrics, not in information retrieval
- Visualization plays a prominent role in bibliometric research
- Our VOSviewer tool ([www.vosviewer.com](http://www.vosviewer.com)) is among the most popular bibliometric visualization tools
- CitNetExplorer is a new tool that potentially can also be used for information retrieval purposes

# CitNetExplorer

- Software tool for analyzing and visualizing citation networks
- Available at [www.citnetexplorer.nl](http://www.citnetexplorer.nl)
- Possible applications:
  - Studying the development of a research field over time
  - Delineating research areas
  - Studying the publication oeuvre of a researcher
  - Literature reviewing

# Retrieving scientific publications for systematic literature reviewing

- Consider the task of writing a comprehensive literature review on a certain research topic
- How to be sure that no relevant publications are overlooked?
- Essentially, we require an almost perfect recall, while hopefully still having a reasonable precision
- To what extent can citation relations be used to support this task?

# Demonstration

# Topics for discussion

- Related work in the information retrieval literature?
- Most promising search strategy?
  - Keyword search with citation-based expansion
  - Citation-based clustering
  - ...
- Suggestions for improving or extending the tool?