

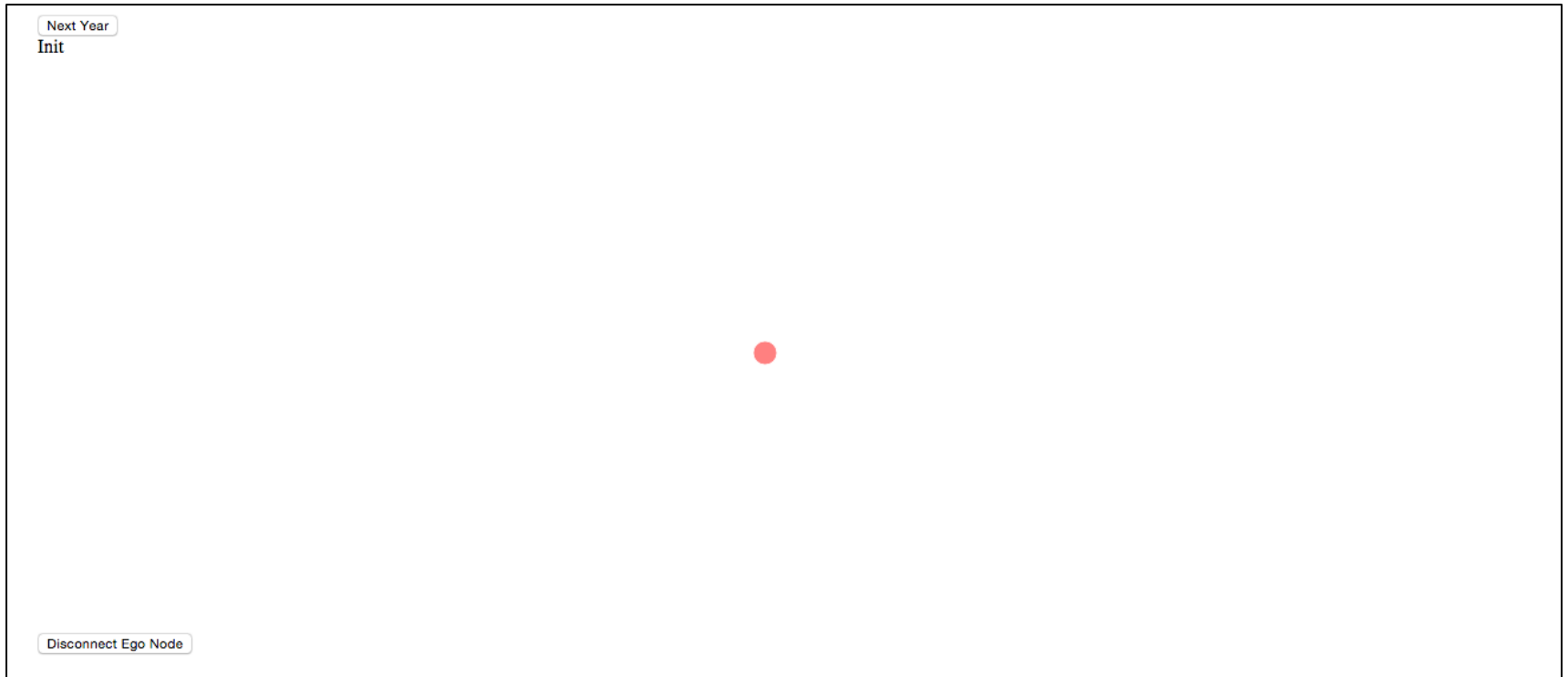
Visualizing Scholarly Impact over Time

Jason Portenoy and Muhammad Raza Khan

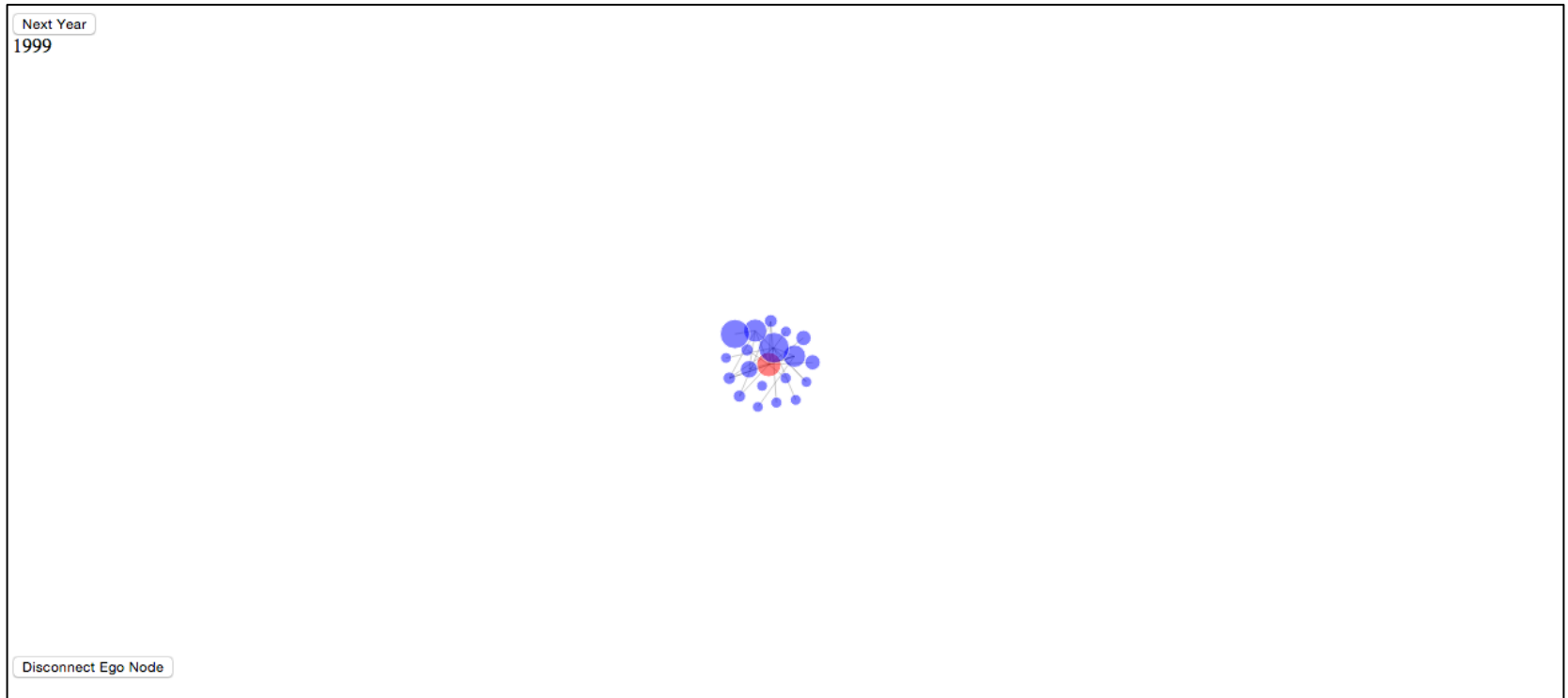
Goal

- Create a compelling narrative showing the influence that a particular researcher or research paper has had in scholarship.
- Use a node-link diagram:
 - Nodes = papers
 - Edges = citations between papers
- Watch the network develop over time.

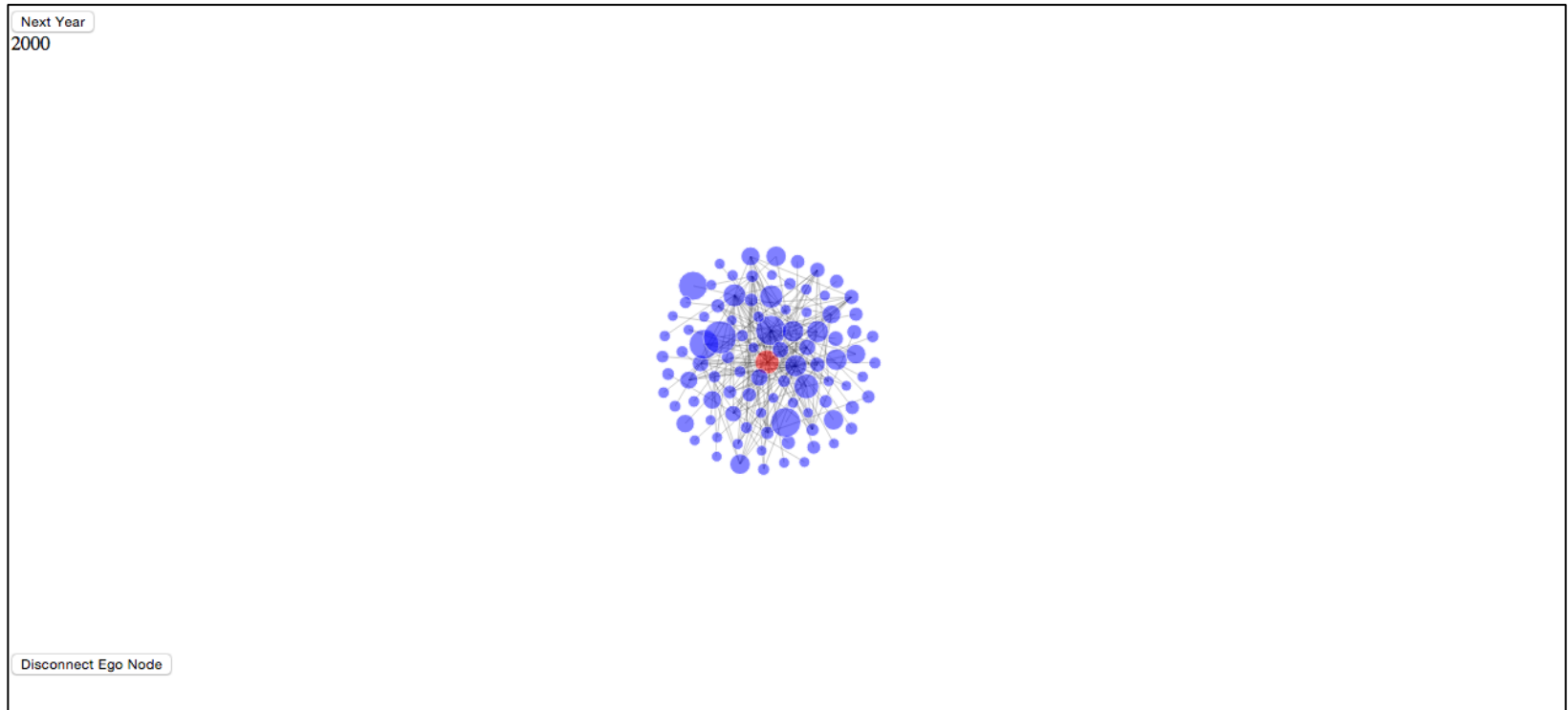
Initial Progress



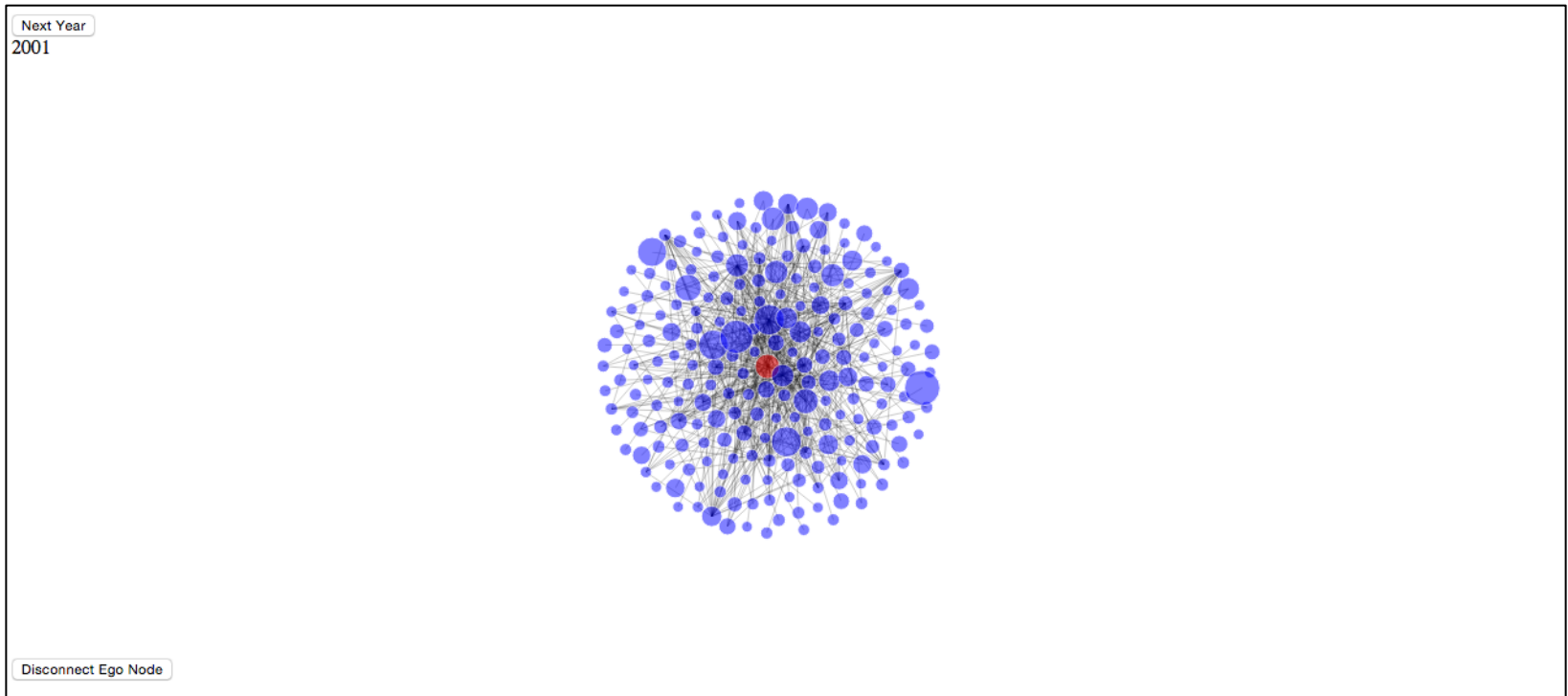
Initial Progress



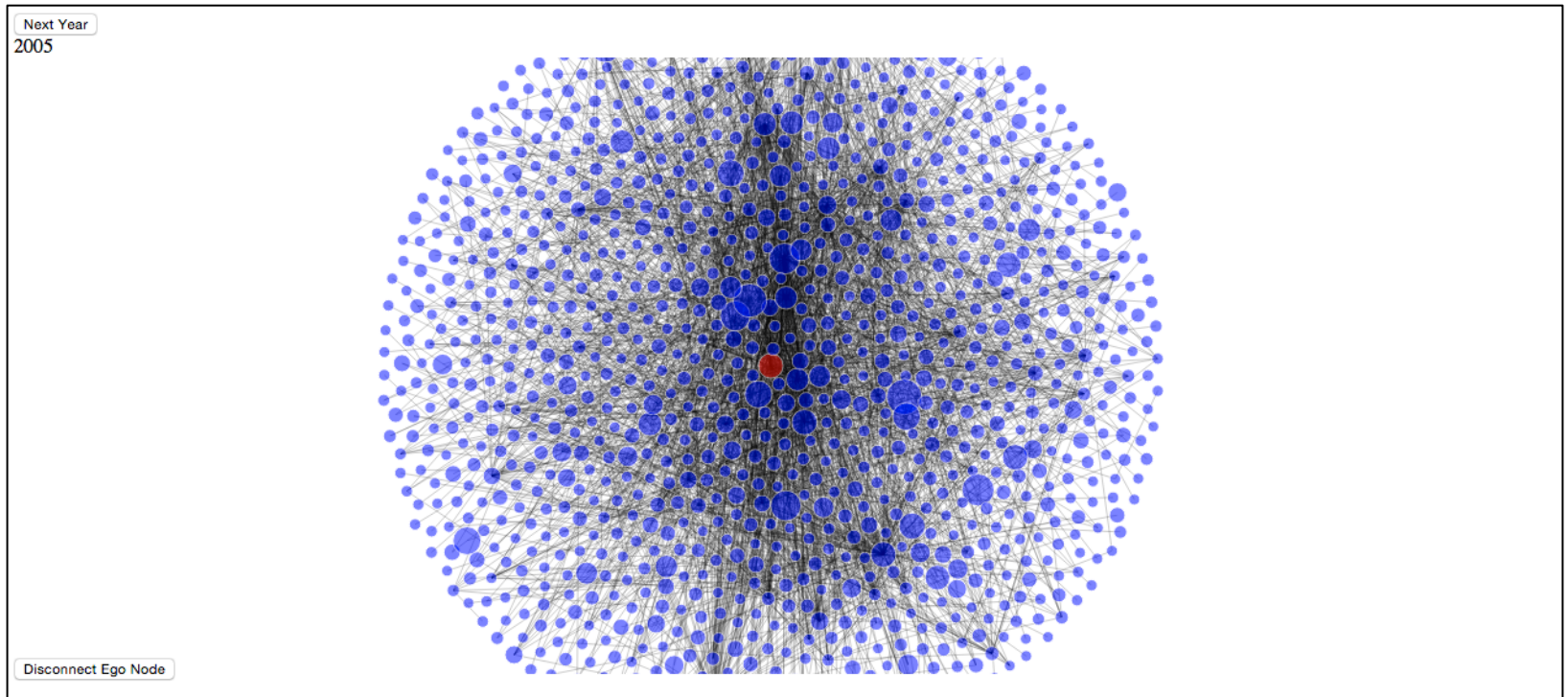
Initial Progress



Initial Progress

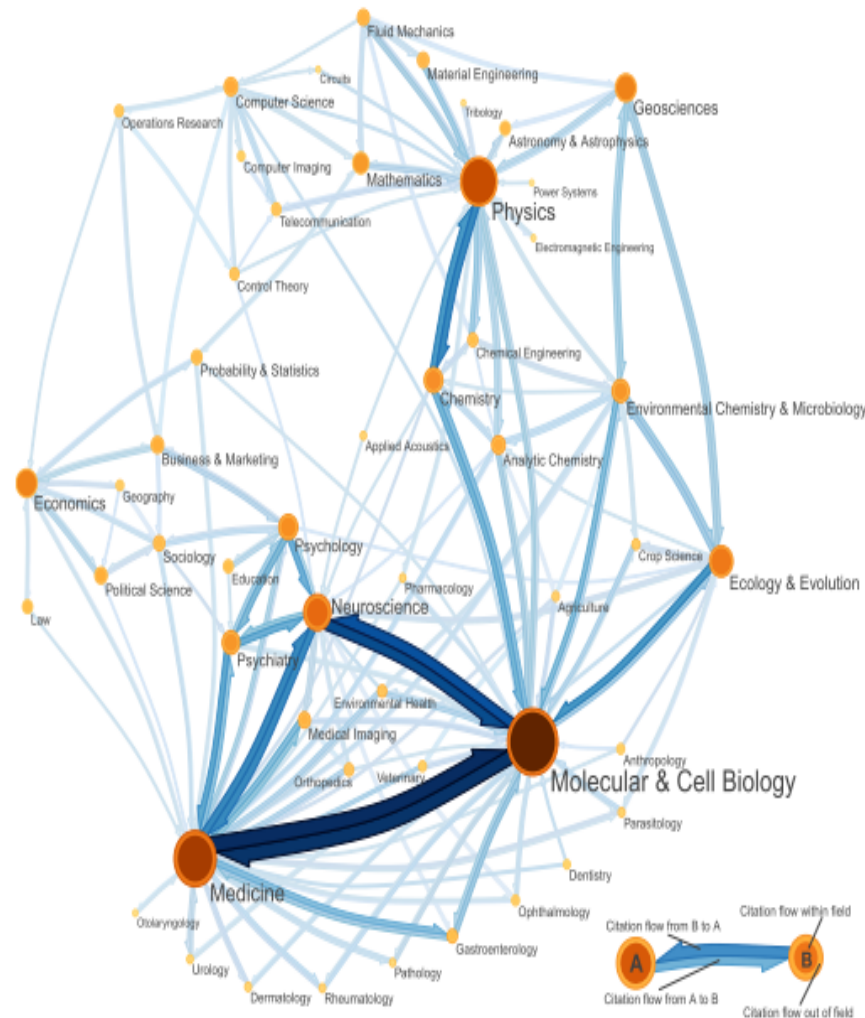


Initial Progress



Related Work:

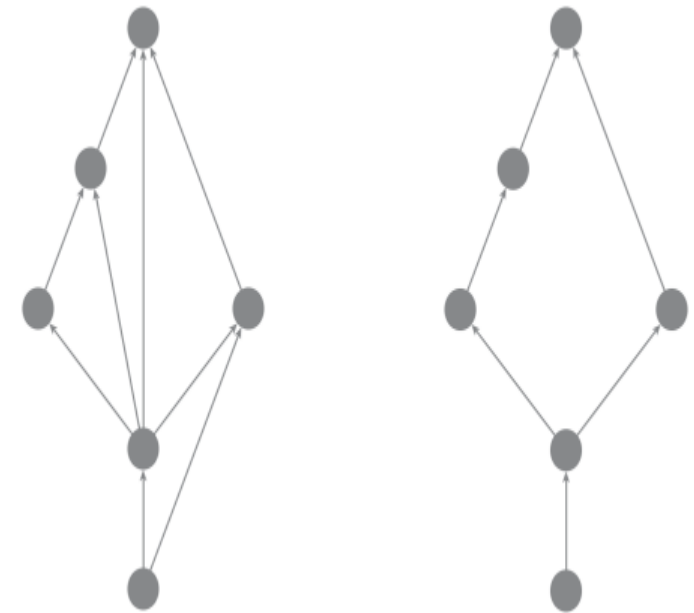
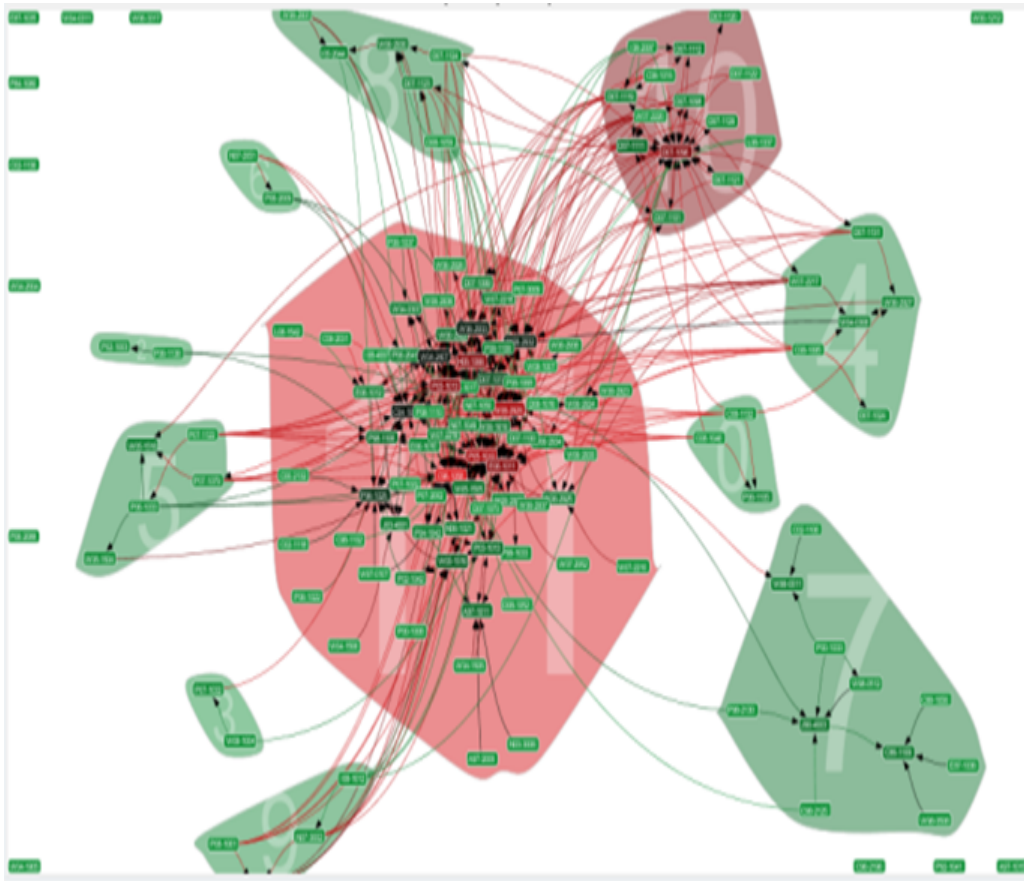
Fields Level Citation Networks



M. Rosvall and C. T. Bergstrom, "Maps of random walks on complex networks reveal community structure," *Proceedings of the National Academy of Sciences*, vol. 105, no. 4, pp. 1118–1123, Jan. 2008.

Related Work:

Paper-Level Citation Networks



Transitive Reduction in
Networks

N. J. van Eck and L. Waltman, "CitNetExplorer: A new software tool for analyzing and visualizing citation networks," arXiv:1404.5322 [physics], Apr. 2014.

Questions for You

- How to best deal with the hairball problem?
 - We have data on clusters (research fields) and influence (based on network structure).
- Most effective ways to provide context?
- Alternatives to building the network by year?