Visualizing Publication Data

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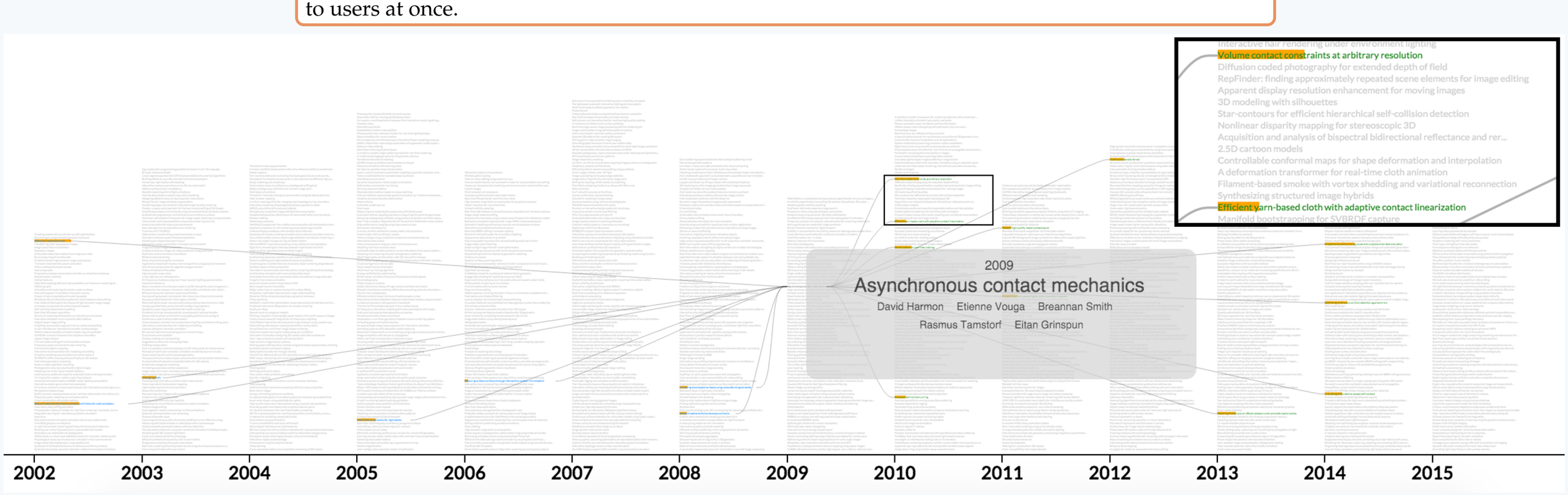
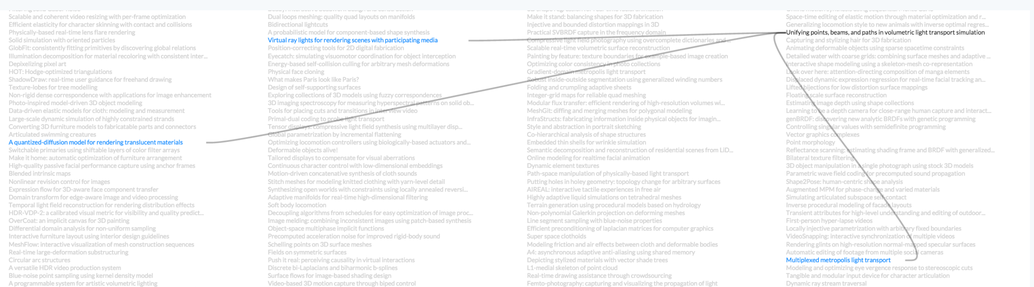
What PubVis is

PubVis is an interactive tool to visualize connections between papers published over multiple years in a collection of papers. It provides users with a multi-faceted way to explore research topics of interest, spot their trends over time, and find high-impact papers and influential authors on the topics. Navigation is done through following citation relationships and shared-keyword relationships among papers, as well as collaboration relationships among authors. PubVis's strength lies in its light abstraction model and ease of interaction, while being able to present a large amount of information to users at once.



Main view

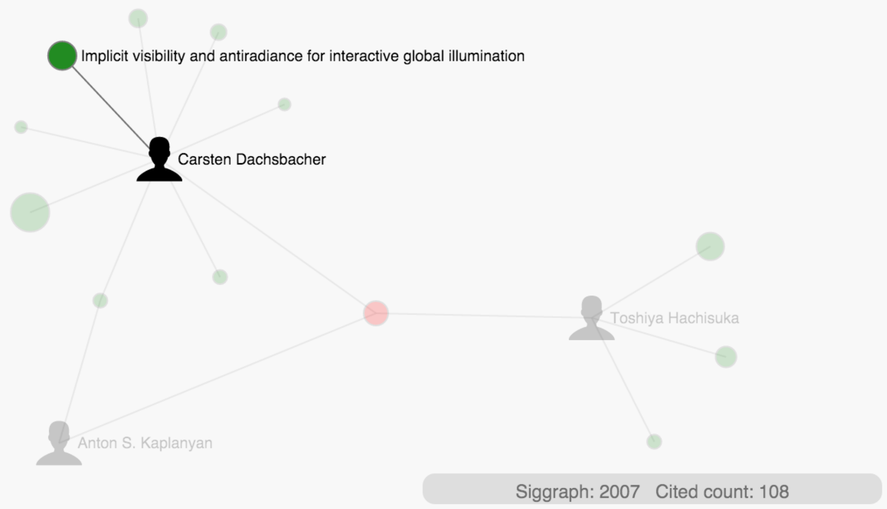


Citation-based sorting help identify high-impact papers.

Pan, zoom, show tool tips, filter by titles and authors, sort and select.

Curved links connect selected paper with cited papers and citing papers.

Author view



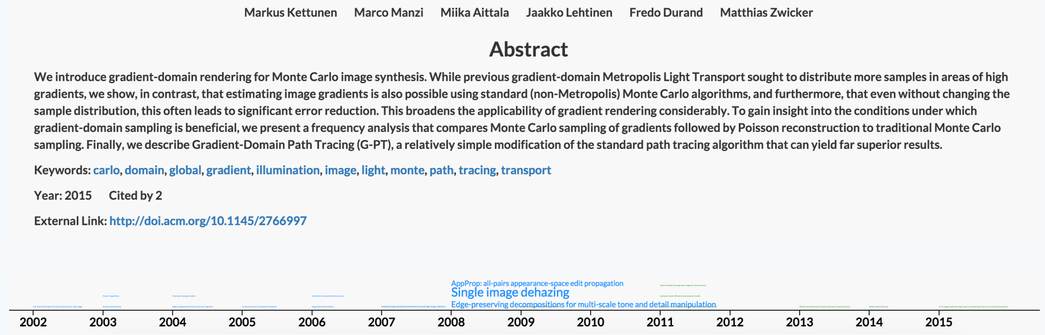
Paper sizes scaled by citation count

Navigate by clicking on a paper

Explore papers by the same authors

Identify prolific authors

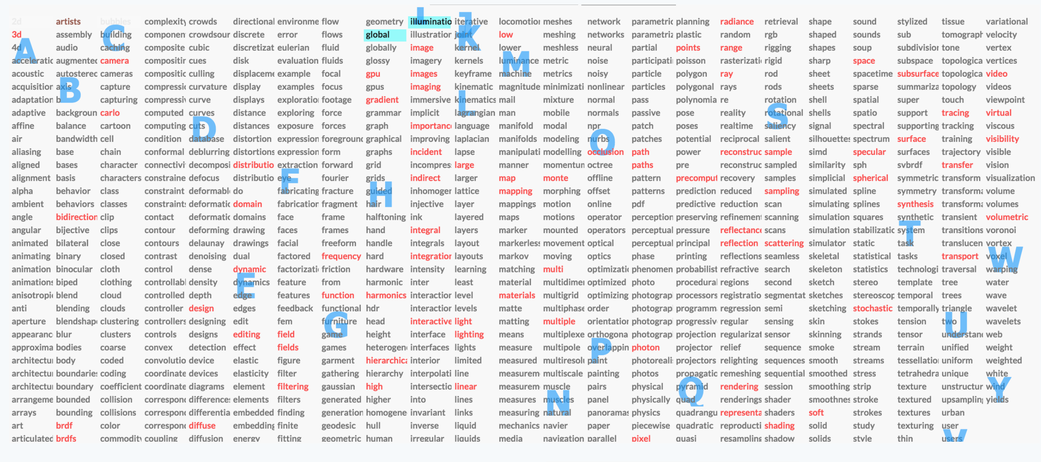
Paper detail view



Title, authors, abstract, keywords, citations, year, and link to publisher

Detail time line for cited and citing papers, with fish-eye zoom

Keyword view



Dictionary-style indexed keywords.
Long keywords revealed on mouse-over.

Multi-keyword selection. Related keywords are highlighted for topic-based exploration.

Selected keywords filter papers in the main view. Useful to spot trends of research topics.

Typing leading letters filter keywords on the fly, by dimming unrelated keywords.

Acknowledgment

This research uses the ParsCit[1] open source framework for meta-data extractions from papers, and the Alchemy API[2] for keyword extractions.

[1] Isaac G. Councill, C. Lee Giles, Min-Yen Kan. (2008) ParsCit: An open-source CRF reference string parsing package. In Proceedings of the Language Resources and Evaluation Conference (LREC 08)
[2] Alchemy API www.alchemyapi.com

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