

# Catherine (Cathy) Blake

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Professor Blake's goal is to empower citizens with science, which she does by developing automated methods that accurately synthesize evidence from scientific literature.



Some foods (like soy) contain isoflavones that behave like estrogen.

## Keywords

Text mining, natural language processing, automated risk assessments, information synthesis, entity detection

## Research Interests

Dr. Blake's Claim Framework captures how scientists – in any empirical discipline – report results. Explicit and observational claims have been used with hundreds of thousands of abstracts to capture how chemicals may play a role in the progression of cancer. Comparison claims have been used to identify research gaps in diabetes literature.

## Current Projects

- The team is working on precision entity detection to ensure that systems accurately differentiate or harmonize food expressions in text. For example, soy products exert estrogen-like activity, but the amount of activity varies greatly between soybeans, soy milk and soy sauce.
- Deep learning is being used to capture the specific levels of biomarker activity related to different breast cancer sub-types.

## Interest Areas for Collaboration/Future Work

Blake's work is informed by her award-winning paper on how humans balance different streams of evidence when conducting a systematic review or meta-analysis. Most of my work has been in text mining around breast cancer, but I am interested in collaborating with others who are interested in risk, cancer, biomarkers, toxicology, and other social determinants of health (like food).