

Web searches may sacrifice accuracy for popularity

May 18 2010, by Chris Barncard

(PhysOrg.com) -- By adding a subtle nudge to each of more than 1 billion search requests every day, Google may be steering the direction of public discussion.

Begin typing a word in the search box at google.com, and the Google Suggest feature starts kicking in ideas — "tiger" begets "tiger woods," "tea" draws "tea party movement" and "craig" will summon "craigslist."

"It is meant to be helpful, but from a public discourse perspective it is worrisome," says Dominique Brossard, a University of Wisconsin-Madison [life science](#) communication professor.

Brossard and four colleagues studied Google's data for nanotechnology-related search terms and the associated Google suggestions from October 2008 to September 2009.

In a study published in the May issue of *Materials Today*, the researchers found a reversal in the top 10 nano search terms, with [economic impact](#) (word such as "stocks," "jobs" and "companies") searches giving way to health ("medicine" and "cancer") searches over the course of a year.

By the time August 2009 arrived, users who typed "nanotechnology" into the [Google search](#) box were getting a list of suggestions topped by "nanotechnology in medicine" despite the phrase's standing as the sixth-most popular nano search term.

The more people choose Google's suggestions, the more they click on one of the high-rated results for that search. And it's the content of highly clicked sites that inform future Google Suggest terms.

"Sergey Brin and Larry Page created Google to sort search results, in part, based on how popular particular sites were," Brossard says. "For [science information](#), that means that surfers may be offered the most popular results rather than the ones that best represent the current state of the science."

The effect, the researchers saw, was a slip down the most-popular list for nano-related content in areas such as public policy, social implications and applications like national security and environment.

"So you have a reinforcing spiral that pushes nanotechnology and health to the top, even though that health part is a small part of what the science is about and a small part of what people were searching for just a few months earlier," Brossard says.

More than two-thirds of adults in the United States turn to the Internet for information on science topics.

"But some people are missing out in the way that they are not getting the big picture about what this technology is about," Brossard says.

Nanotechnology information was a prime target for the research — which was funded by the National Science Foundation — but probably not alone in being swayed by search engine suggestions.

"It's the first study of this self-reinforcing spiral around Google search suggestions," says Brossard, who was joined in the study by UW-Madison life science communication professors Dietram Scheufele and Bret Shaw and graduate students Peter Ladwig and Ashley Anderson. "In

all likelihood this is not unique to nanotechnology, and we could see similar self-reinforcing spirals in all sorts of areas of public discourse."

Provided by University of Wisconsin-Madison

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