

Scientists and public differ on views about nanotechnology regulation

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(PhysOrg.com) -- When it comes to regulating nanotechnology - a burgeoning global industry with wide-ranging potential applications - a new study led by professors Dietram Scheufele at the University of Wisconsin-Madison and Elizabeth Corley at Arizona State University (ASU) reveals that the views of U.S. nanoscientists differ from those of the general public.

Nanotechnology involves controlling matter of atomic and molecular size to develop devices of incredibly small scale, usually 100 [nanometers](#) or smaller (small enough to fit through the pores of a surgical mask). The technology is becoming more pervasive, with more than 1,000 products - ranging from more efficient solar panels to scratch-resistant automobile paint to souped-up golf clubs - already on the market. Global revenues from products using nanotechnology are estimated to reach \$2.8 trillion by 2015, according to Global Industry Analysts Inc.

As reported in the online version of the Journal of Nanoparticle Research today (June 19), Scheufele and Corley found that the public tends to focus on the benefits - rather than potential environmental and [health risks](#) - when making decisions about nanotechnology regulation, whereas scientists mainly focus on potential risks and economic values.

"We think that nanoscientists view regulations as protections for the public, and that's part of the reason why they focus on the potential risks," says Corley, the Lincoln Professor of Public Policy, Ethics and Emerging Technologies in ASU's School of Public Affairs. "On the

other hand, the public seems to think of nanotechnology regulations as restricting their access to new products and other beneficial aspects of nanotechnology."

According to the study, leading U.S. nanoscientists believe regulations are most urgently needed in the areas of surveillance and privacy, human enhancement, medicine and the environment. At the same time, this group feels that other areas, including machines and computers, have little need for further regulation.

Decision-makers often rely on the input of scientists when setting policies on nanotechnology because of the high degree of scientific uncertainty - and the lack of data - about its risks.

"This difference in the way nanoscientists and the public think about regulations is important for policymakers [to take into consideration] if they are planning to include both groups in the policymaking process for nanotechnology," says Corley.

The study also reveals an interesting divide within the group of nanoscientists. Economically conservative scientists were less likely to support regulations, while economically liberal scientists were more likely to do so.

"This says less about scientists than it does about the lack of conclusive data about risks related to nanotechnology," says Scheufele, a life sciences communications professor at UW-Madison. "Policymakers need to realize that when they ask scientists to give them advice about inconclusive findings, they will get both their professional judgment and their personal views."

Data for the study came from survey questionnaires filled out by 363 of the most highly cited and most active U.S.-affiliated scientists in the

[nanotechnology](#) field. The survey, conducted between May and June of 2007, was administered by the University of Wisconsin Survey Center. It was the first nationally representative study of nanoscientists.

Provided by University of Wisconsin

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