

Enhancing Public Understanding of Nanotechnology and Its Applications to Agriculture and Food

The perception and acceptance of nanotechnology by the general public are assessed along with the impact of this information on the public concerning this emerging technology. The work does not simply assess but to create a foundation to help inform the general public about the promises and challenges of nanotechnology as it applies to agriculture and food systems. By assessing the impact of these informational programs on the general public, the researchers led by Dr. Carl Batt of Cornell University determine not just their perception but the ways in which that perception (and acceptance) can be impacted. **One very tangible outcome is a set of best practices through which the general public can be informed on progress made in the field of nanotechnology.** To provide an information base Dr. Batt produced a series of audio and video episodes in collaboration with Earth & Sky. The episodes cover both potential benefits and risks of the technology. They have been developed after some front-end assessment to determine what the general public knows and their concerns about nanotechnology in agriculture and food systems. The radio episodes have been broadcast as part of the regular Earth & Sky series which reaches approximately nine-million listeners each day. The video versions are used in *Too Small to See* and *Too Small to See-2*, a pair of traveling museum exhibitions developed by the PI that are currently on tour in the United States. In addition these videos are used in other public venues including nontraditional ones. **Over the two year period of this grant (and beyond) approximately 55 million 'views' should be recorded on the subject.** Online responses and interviews with visitors are used to determine their perceptions of nanotechnology as it applies to agriculture and food systems. The interviews and the evaluation of the project are carried out by an external evaluator to determine the impact of these informational pieces on their perception and acceptance of nanotechnology. The influence of these informational programs will be determined by controlled follow-up interviews.

The six podcasts were completed and broadcast in the Spring 2009 featuring Norm Scott, Aaron Strickland, George Whitesides, Jennifer Kuzma, Jochen Weiss and Rosalyn Berne. Both 90 second radio broadcast episodes and longer podcasts were created.

The screenshot shows the EarthSky website interface. At the top left is the EarthSky logo with the tagline 'A CLEAR VOICE FOR SCIENCE'. To the right of the logo is the text 'Web community for a thoughtful future.' Below the logo is a vertical navigation menu with categories: Animals, Bizarre, Body & Mind, Climate, Earth, Human World, Innovation, Oceans, Plants, Space, and Photos. The main content area features an article titled 'Nano sensors to help farmers monitor crops'. The article includes a photo of corn plants with the credit 'Image Credit: mattdente'. Below the photo is a text block starting with 'Here's how it works. Small amounts of gold nanoparticles - a few billionths of a meter in size - are mixed with crop spray. That addition ultimately allows a hand-held laser scanner to pick up a signal of the fertilizer or pesticide. Strickland said knowing what additives are on crops should give farmers a better idea of when to spray again.' Below this is a quote from Aaron Strickland: 'Aaron Strickland: So they can get a glimpse into their crop field without having to actually take samples, monitor the chemicals they've just sprayed, or send them back to the laboratory. He said it'll be years before the biosensors hit the fields and that scientists want more research on how this technique will effect the environment.' At the bottom of the article is a thank you note: 'Thanks today to the USDA Cooperative State Research, Education and Extension Service National Research Initiative Program and Cornell University.' To the right of the article is a sidebar with a 'Subscribe' button and a list of categories. Below the article is a 'Join the EarthSky community!' button with a Facebook logo and a 'FOLLOW US ON Twitter' button.

Contributing Agency: USDA/CSREES