

SUSTAINABLE AGRICULTURE &  
FOOD SYSTEMS FUNDERS



**Nanofoods: New Risks and Strategies for Food Systems Advocacy**

*Sponsored by CS Fund*

Few people realize that newly created nanomaterials are being introduced into our food system, or what this might mean for public health, worker safety, and the environment. This session will introduce participants to the brave new world of nanofoods to help food system funders understand: what are nanomaterials anyway? Why experts and advocates in public health, sustainable agriculture, consumer protection, and corporate responsibility worry about them why some food companies use nanomaterials without informing their customers, while others have adopted policies to avoid them—at least until testing methods and regulations are in place to safeguard public health and the environment.

Moderator

**Monica Moore**, *program officer, CS Fund, CA*

Speakers

**Lauren Heine**, *co-director, Coming Clean Nanotech Working Group; director, GreenScreen Program, Clean Production Action, AK*

**Michael Passoff**, *consulting senior strategist, As You Sow, CA*

**Jim Thomas**, *research program manager, ETC Group, Quebec, Canada*

Jim Thomas

- ETC Group is a technology watchdog
- Erosion technology and concentration
- History of technologies
  - o Disruptive technology include mechanization (factory farms), internal combustion (transportation, culling), chemistry (fertilizers, pesticides), electricity (refrigeration), nuclear science (radiated food), computing, genetic engineering (soy and corn), robotics and drones (used in Japan for spraying and monitoring crops), 3D printing
  - o Emerging technology is nanotechnology – it is infinitesimally small and built on atoms
    - If you can manipulate atoms you can build anything~
- Uses today
  - o Silver as antibacterial in socks, refrigerators
  - o Titanium dioxide in sunscreen
  - o Lycopene in food
  - o Nanosensors to see if food is spoiling

## Lauren Heine

- There is a need for technology assessment
- Technology changes are no longer one at a time
  - o “the rain is a tsunami”
- Currently there are no regulations on nanotechnology – “just because it is small doesn’t mean it is insignificant!”
- The same reasons that make nanotechnology effective are the same reasons to be cautious
- Nano is getting ahead because assessments can’t keep up
- GreenScreen started assessing nanosilver because it is so pervasive
- Potential problems
  - o Toxicity – less toxic in micro form but still potentially toxic
  - o Can it lead to bacterial resistance?
- “If we can engineer it, we should know what it does in the environment”
- Conclusions
  - o If we can engineer it, we should know what it does to the environment
  - o Hazard assessments are possible to see what we know and what we do not know
  - o We must ensure nanomaterials are screened before they are introduced in food & other products
  - o We need to build market and policy pressures to require assessment and public disclosure of results by businesses, NGOs and public sector
  - o We need to build political will to regulate and require transparency about nanomaterial use in specific products, including asking: “Do we need this? Who says so and why?”

## Michael Passoff

- A big leverage point right now is understanding what is happening—our understanding must evolve with what is happening
- They have been focused for three years on understanding the extent of nanotechnology and after three years still don’t know
- Nanotechnology appears in agriculture, pesticides, food, clothing, and appliances
- Four companies worked with AYS to develop a framework, smart companies don’t want another regulatory and reputational risk like GMOs
- For most companies safety is an afterthought, the focus is on developing products and testing them later
- Tested Dunkin Donuts and Hostess, and found titanium dioxide used as a whitener
- We are obsessed with technology but don’t always understand the consequences
- Universities and industries are fighting over whose research is accurate

## Discussion Themes

- Regulation
  - o FDA sees ground for concern
  - o EPA generally regards them as safe, making a distinction in size
    - A legal petition was made to the EPA, though they waited until the last day to respond with an act to pursue in 2011
  - o EU is labeling food and is working on other sectors
  - o Some companies are lobbying for decisions as well, such as DuPont

- Leverage Points
  - Research – very few funders are in this space, it is an opportunity to be transformative, right now is the time to act
  - Education and social organizing
  - Policy is important but we can't rely on it as piecemeal regulation cannot keep up
  - We must address this issue on a series of fronts
  - Need for a broader assessment framework that we had in the 80s
- Next Frontier
  - Extreme genetic engineering is a multi billion dollar industry
  - Proctor and Gamble, Unilever, BP and Shell are investing in developing food ingredients
  - Synthetic yeast can brew large vats of vanilla which can be labeled natural because it is biological instead of chemic
  - ADM is developing a synthetic algae and synthetic coconut
  - Artemisia, a natural way to fight malaria, is being developed synthetically
- Major Concerns
  - Land use patterns are already shifting
    - Brazil is increasing sugar production because of demand from corporations developing these products
    - Destruction of rainforest, slave labor, increasing monoculture
  - Ownership of medicinal solutions such as Artemisia are shifting to corporations instead of being in the hands of some of the poorest farmers
  - Impact on water use
  - Increase in infection because of resistance to antibacterial elements
  - Long term consumption effects are not known