Nanotechnology: Regulatory Issues and Capabilities

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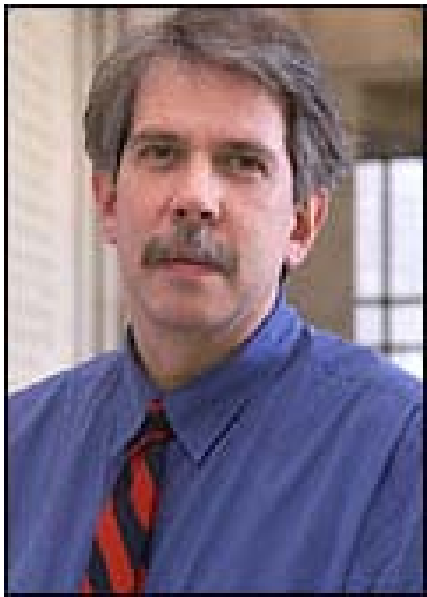
QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Project on Emerging Nanotechnologies
(Pew has provided an additional 3 million)

- 100 million should be spent over the next two years on risk-based research (Maynard, NIOSH)
- Is nanotechnology revolutionary? (Rejeski)
- List of nanoproducts, updated continuously
- Impact on policy--hearings &c.
- Collaborate with our UVA group on risk identification and upstream governance

Dave Rejeski



Capability for nano regulation

- Regulatory paradigms, e.g., focus on mass rather than surface area in nanoparticles
- Regulatory gaps (Wardak), e.g., between regulatory agencies
- Strain will increase as nanostructures and systems are developed
- Oversight is broader than regulation (Greenwood, *Project)*
  - *Pollution Prevention Through Nanotechnology*

Cognitive & social capabilities for upstream management

- Trading zones among different stakeholders
- Facilitated by the development of interactional expertise (eg, anthropologists at Rice)
  - Workshop at ASU (http://bart.tcc.virginia.edu/Tradzoneworkshop/index.htm)
- Leading to adaptive management of emerging technological frontiers (NBIC)
  - Earth Systems Engineering and Management (Allenby)
- Creating the capability for anticipatory governance

Immediate challenges for SEI

- How can Centers, NIRTs and NERs coordinate on the nanotechnology & regulation topic?
- Mirrored in other areas--eg, public perceptions, ethics
- Trading zone instead of incommensurable efforts fueled by institutional cultures, disciplinary silos and competition for funding
  - Preserve diversity, promote sharing and collaboration

If nanotechnology is the solution, what are the problems?

Selected References

- Wardak, A., Gorman, M. E., Swami, N., & Rejeski, D. (In Press). Environmental Regulatory Implications for Nanomaterials under the Toxic Substances Control Act (TSCA). *IEEE Technology & Society*.
- Gorman, M. E., Groves, J. F., & Shrager, J. (2004). Societal Dimensions of Nanotechnology as aTrading Zone: Results from a Pilot Project. In D. Baird, A. Nordmann & J. Schummer (Eds.), *Discovering the Nanoscale* (pp. 63-73). Amsterdam: IOS Press.