

**CALL FOR PAPERS ON NANOTECHNOLOGY AND SOCIETY**  
**NBER Conference on Emerging Industries: Nanotechnology and NanoIndicators**  
**May 1 and 2, 2008 in Cambridge, Massachusetts**

Are you working on nanotechnology and society? Have you developed statistics or analyses that could be useful in creating indicators of the social impact of social technology? Do you know of imaginative ways to visually display the development of nanotechnology?

Then come and give a paper at the NBER conference. We would like a brief abstract by Wednesday, January 30, sent via email to Lynne Zucker at [zucker@ucla.edu](mailto:zucker@ucla.edu). If your paper is accepted, we would like a first draft by Friday, April 18. Papers at the conference will be candidates for publication in an NBER conference volume.

NSF and other Federal Agencies have funded social science and humanities projects to investigate different aspects of Nanotechnology and its societal interaction. Visualization of the results can give thumbnail trends and highlight important areas for policy makes, the press, and the broader public. One conference goal is to produce visualizations of the emerging nanotechnology and society interface and post them for public use.

We expect that each paper will include one or more NanoIndicators that are presented in the form of graphs, tables, or other visualizations. We provide a suggestive listing of potential NanoIndicators below in the Figure. These are related to research projects we know to be underway and to two databases now available, NanoEthicsBank (public) and NanoBank (in beta test, but easily available to researchers by application).

NOTE: POTENTIAL KAUFFMAN FOUNDATION SUPPORT, DEADLINE January 15, 2008: 10K to 20K is available for [nanobank.org](http://nanobank.org) use from the Kauffman Foundation for research and dissertations: [http://www.kauffman.org/datasymposium/news\\_detail.cfm?news\\_id=255](http://www.kauffman.org/datasymposium/news_detail.cfm?news_id=255)

Foreign researchers may be supported only in collaboration with colleagues at a US university, with the funds flowing through the US university with detailed guidelines found at: <http://www.kauffman.org/grants.cfm?topic=fundingguidelines>

In many cases, NanoIndicators can lead to empirical tests of theoretical explanations of innovation processes, knowledge transfer and development, processes underlying the emergence of new companies and industries, and so on. For the purposes of this conference and a planned NBER conference book, we focus on indicators that tie into a broader theoretical approach and set of empirical studies that validate it.

**Archive: NanoIndicators and Validation Studies**

We will maintain an archive on NanoConnection.net of pilot studies on NI design and validation. Validation reports will often be in the form of research papers where NI robustness is tested against other explanatory variables. A key question for validation is whether the NI relative effects indicate centrality in determining important societal outcomes or centrality in determining scientific investigation or commercialization in nano. Core NanoIndicators will be selected using these criteria and, where possible, updates of these NIs will be automated.

Send your abstract to [zucker@ucla.edu](mailto:zucker@ucla.edu). We will get back to you quickly.

## Figure: NanoIndicator Examples

### Commercialization

- Number of nano-firms by country & US city/region
- Nano workforce measures:
  - number of scientists working in nano organizations
  - number of grads from "nano" progs., job ads by country, US city/region
- Commercial & ethical rhetorical indicators
- Counts of university scientists co-publishing with firms in nano
- Counts of university scientists co-patenting with firms in nano

### Environment

- Counts of public media reports on environmental hazards from nanotech
- Counts of public media reports on nanotech environmental amelioration
- Actual and projected production nano-titanium dioxide

### Ethics

- Codes of Ethics: counts and by nano-specific, professional, product-related, firm-responsibility-related, AIMA compliant, field, discipline, and geographic scope
- Counts of ethics and nano in legislation, research articles, public media, and professional & policy meetings
- Policies & standards: counts and by nano-specific, patenting rights, conflict of interest, research management, workplace safety, and maker type (government, industry, university, professional group)
- Counts of risk assessment reports & enforcement strategies in nanotech versus all technologies
- Changes over time in triggering conditions: proactive or reactive to nano problems

### Patents

- Number of US nano-patents - count & weighted by claims & forward citations (rolling window)
- Counts of nano-patents by quality derived from forward patent citations by applicant and separately by the patent examiner
- Number of claims changes during prosecution - a measure of nano-patent scope
- Distribution of inventors on US nano-patents by country and by US city & region
- Age of backward cites in nano-patents - measure of technology age and tacitness
- Comparative statistics derived from European and Japanese patent files
- Measures of use of continuations and litigation for nano-patents

### Science

- Distribution of authors of nanotech articles by field, country, and US city and region
- Nanotech indicator in Survey of Earned Doctorates (SED)

### Trust

- Indicator of public perception of nanotechnology in top-50 newspapers
- Nano-trust indicator development for government, corporations, and scientific experts
- Public trust as indicated by willingness to use nano products