

# National Science Foundation Societal Implications of Nanotechnology 2007 Principal Investigators' Meeting

15 March 2007

NSEC/Center for Nanotechnology in Society  
at Arizona State University

Arizona State University

University of Wisconsin-Madison

Georgia Institute of Technology

North Carolina State University

Rutgers, The State University of New Jersey

University of Colorado, Boulder



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Nanotechnology in Society

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Award No. # 0531194

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<http://cns.asu.edu>

# CNS-ASU Research and Innovation Systems Analysis

Frontier assessment of  
emergent sub-topics,  
interconnections, emerging  
applications



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## Research Program Assessment

- Research Paths
  - ◆ Nanotechnology search terms
  - ◆ GPT
- Networks and clusters
  - ◆ Nanodistricts
- Commercialization
  - ◆ Scenario testing
  - ◆ Nano startups
- Philip Shapira and Alan Porter  
(Georgia Tech)



# RESEARCH PATHS

Assessing the nature of nanotechnology: Can we uncover an emerging general purpose technology

Youtie, Iacopetta (CNS-ASU), Graham (Harvard/UCLA) JTT, accepted

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## Nano and GPT

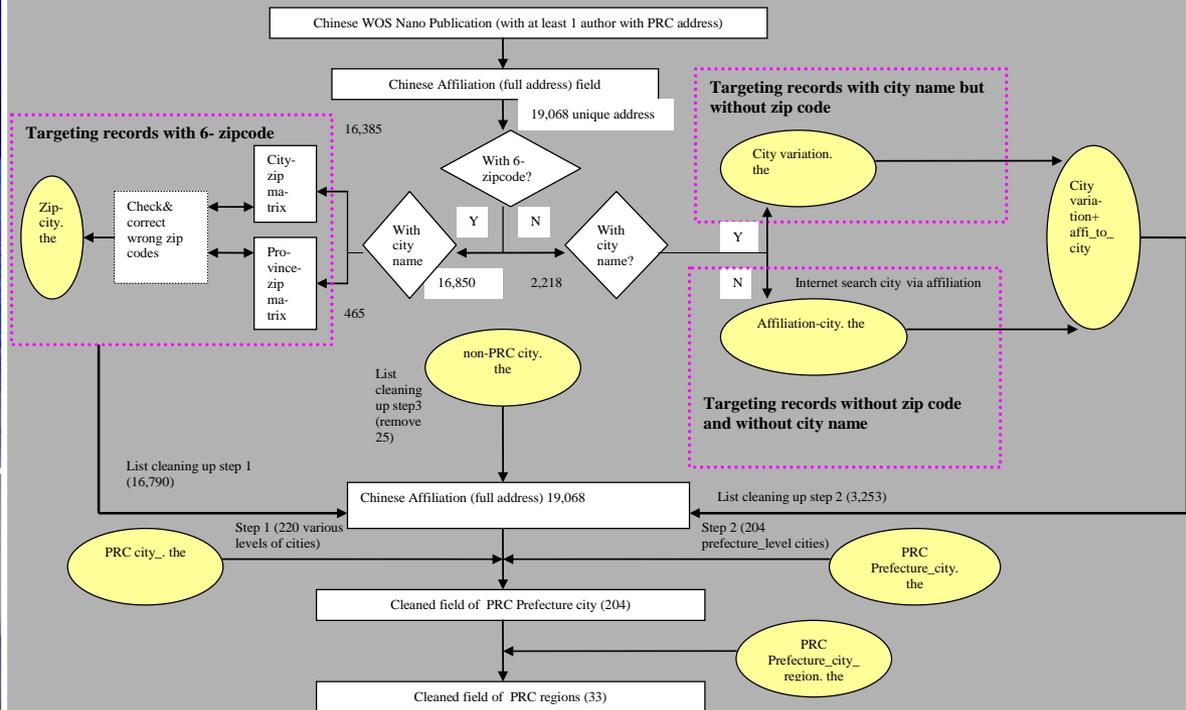
- Three GPT attributes: (1) pervasiveness, (2) innovation spawning, (3) scope for improvement (Helpman and Trajtenberg, 1994)
- Limited evidence of pervasiveness based on Generality Index using patent classes assigned to focal patents' forward citations, Generality Index (Hall and Trajtenberg, 2004) → Nano  $\approx$  ICT
- Implications for investment decisions, disruptions, appropriability, dissemination
- Challenges: small number of forward citations; lack of evidence for other GPT attributes



# Networks and Clusters

Objective: examine impact of regional innovation systems on development of nanotechnology

Challenges: geographic definitions



- Framework for Geographical Cleaning, P.R. China, SCI, 1990-2006 (Science & Technology in Society, AAAS Graduate Conference)

