

**Invisible College & Research Collaboration in China:
Evidence from Nanoscience & Nanotechnology Publication Activities, 1990-2006**

Abstract

The last two decades have witnessed China's dramatic growth in nano-science and nano-engineering (nano) research. Although recent studies have consistently shown that China is becoming a leading nation in terms of its share of world's publication, some key questions are left unanswered. First, few studies have methodologically correctly explored the intellectual structure of the Chinese nano- community, such as what are the leading institutions, where are the leading cities, and what are the collaboration patterns among Chinese nano scholars. Second, nanoscience & nanotechnology is an interdisciplinary field. Although in general China is among those top countries in nano-related publication, it is still not clear in which subfields of nano research is China is aligned with, catching up, or lagging other nations. Third, although scholars tend to agree the influential impact of overseas Chinese on China's knowledge accumulation, most studies are descriptive, and little research has been conducted to test hypotheses about China's cross-national nano knowledge networks. Using a unique nano-related publication dataset, this paper will combine bibliometrics analysis, network mapping and statistical testing to visualize the "invisible college" of China's NSE research on two thematic questions: profiling nano- S&T research in China and examining the impact of research collaboration on the visibility of nanoscience in China.

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