ADVANCE POSTER ABSTRACT 2009

TITLE: Advancing Women at the New Jersey Institute of Technology through Collaborative Research Networks: An Overview of Year 3

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Women faculty bring enormous resources of knowledge, energy, and passion to their careers in science and technology; but because their numbers are small, they often find themselves disconnected from each other and from the informal networks through which crucial information flows. As a result, they are more likely to drop out of academia. The NSF-funded ADVANCE Program at the New Jersey Institute of Technology (NJIT) addresses this problem by proactively linking women researchers to each other and to male peers; by supporting women-led collaborative research projects; and by providing new E-tools to help faculty assess and manage their professional networks.

As part of this process, NJIT ADVANCE has constructed a publications database that contains nearly a decade of information about faculty research collaboration and co-authorship. Using UNCINET, ORA and other tools to analyze this rich data set, ADVANCE has created dynamic co-authorship maps for both individual faculty and for departmental units. Validated by additional self-reported faculty “friends” data, these maps provide a thick description of faculty interactions over time, allowing us to better understand the gender patterns in the “invisible colleges” that constitute the organizational culture of the university as a whole.

In the final phase of the project, ADVANCE researchers are introducing research network mapping to select faculty and administrators in a series of structured interviews, recording their responses, and incorporating the results iteratively into the database and the design of the map interface. The ultimate goal is to test the hypotheses that 1) the ability to visualize social and professional networks in organizational context will give new faculty (and their mentors) access to the kind of “aerial” (satellite) view of the organizational landscape that is normally attributed to strategically positioned “boundary spanners”—a kind of GPS System for Career Management; 2) that social network mapping can function as an effective tool for academic administrators (chairs and deans), allowing them to identify problematic characteristics of the units they manage; and 3) that dynamic co-authorship mapping can bring added value to the task of program assessment, allowing organizations such as the National Science Foundation to more accurately and efficiently measure the effectiveness of the gender-focused interventions they fund—in particular by tracking changes in network fragmentation over time.