

Developing Pathways to Leadership of Senior Women Faculty on a STEM-centric Campus

Institution: Missouri University of Science & Technology

Summary:

The Missouri University of Science & Technology is a small, predominantly technologically focused state research university. The fall 2011 on-campus student enrollment topped 6650 of which 6000 (90%) of these students are enrolled in STEM majors. At S&T, women faculty make up only 12% of the TT STEM faculty. In fact, several of the engineering degree programs do not have any women faculty and others have only one or two women faculty. Therefore women faculty are often isolated within their departments with little or no support. Also, given the small size of Rolla, many women faculty are isolated both professionally and socially. Retention and promotion of women faculty is our key target of this ADVANCE IT project.

Missouri S&T proposes a comprehensive plan to increase the participation and advancement of women faculty in Science, Technology, Engineering and Math (STEM), and institutionalizing changes to university policies and practices. Given the strong support of the Chancellor, Provost, Vice Provosts and STEM chairs, and the more than 10 years of planning for this grant, S&T is poised to address these barriers and to institutionalize best practices for transforming the university. The primary initiatives of this ADVANCE are to:

1. Develop best practices guidelines and training for department, discipline-specific and campus-wide promotion and tenure committees *to increase transparency regarding promotion and tenure expectations and processes across disciplines.*
2. Increase the retention of STEM female faculty by *providing professional development opportunities through mentoring.* We plan to develop and implement a mentoring program for junior female faculty mentees and senior faculty mentors, and a Senior Leadership Shadowing Program to prepare senior women faculty to advance into leadership positions
3. *Create a supportive department environment through department chair engagement* by providing more opportunities for leadership positions within departments, and to develop leadership selection processes that are open and transparent to all faculty members, providing meaningful input to departmental leaders, and department chair training.
4. *Enhance faculty potential for academic and professional leadership* by improving visibility of women faculty and providing resources necessary for faculty to succeed.

Intellectual Merit:

The project will expand knowledge about how diffusion theory can serve as a model for institutional transformation that is applicable to ADVANCE grants. This includes producing a profile of the characteristics of early, mid-, and late-adopters and detractors that can be tested in other settings. The project has the potential to expand diffusion theory by deliberately attending not only to potential adopters, but also to detractors. Detractors are not only individuals who are apathetic but also those who take an active stance in opposition to the project goals or leaders. With competition for scarce resources, opposition to a change initiative could well grow over the life of the project. This project will develop a dynamic profile of the constant and variable characteristics of detractors over the life of a five-year IT project.

Broader Impact:

Since Missouri S&T is far more predominantly STEM-centric than other universities, it faces many unique challenges in the retention and promotion of women faculty into campus leadership positions. This ADVANCE project will provide a model of the effectiveness of awareness and adoption of initiatives and their integration into a campus environment. Our successful institutional transformation will provide a roadmap for other STEM-centric institutions and identify potential barriers to adoption and success. This project will also lay the groundwork for institutional transformation with regards to other faculty groups that exist in small numbers within a larger STEM campus.