



TAPESTRY PROJECT OUTREACH AND PEDAGOGY TO INCREASE UNDERGRADUATE DIVERSITY AT ENGINEERING SCHOOLS



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The Tapestry project seeks to develop activities at both the secondary school and university level aimed at increasing the participation of gender and ethnically diverse students in computing and engineering as well as fostering an undergraduate environment that cultivates retention. A feeder network will be established with the high schools that builds direct links with students and their counselors, teachers, and parents to inform them about the rewards and opportunities in the computing professions and to prepare them for undergraduate computing programs. Developmental workshops will be organized for teachers and counselors to link them to the program.

The project includes activities for all incoming engineering students to expose them to computing through a revised introductory curriculum. Retention efforts involve establishing a supportive academic and faculty community through mentoring, training on pedagogical methods, and linkage to faculty accountability. Formative and summative evaluations identify areas for improvement and the impact of the various activities on reaching project goals. The intellectual merit of this project lies in the curriculum development and assessment, which may provide best practices in addressing diversity concerns at both the secondary and university level. The evaluations should help define a set of activities that are effective for mentoring and outreach and for building academic communities including teachers and university faculty.

The broader impacts of the project include attracting and retaining women and under-represented minorities into computer science and engineering. The project has the potential to produce new models for developing a more diverse group of students and faculty members and to advance discovery and understanding while promoting learning in the information technology disciplines. The project will also provide a better technically educated workforce to meet national security and economic priorities.



Photo by Jane Haley