

**Department of Aerospace Engineering and Engineering Mechanics  
College of Engineering  
SUMMER RESEARCH OPPORTUNITIES  
FOR UNDERGRADUATE WOMEN**

**APPLICATION DEADLINE: March 1, 2006**

*The Department of Aerospace Engineering and Engineering Mechanics is pleased to offer the following research project for the summer of 2006. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.*

**Autonomous Systems Lab (695 Rhodes Hall)**

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**Project Description**

The Autonomous Systems Lab (ASL) is a new lab in the Department of Aerospace Engineering whose mission is the development of hardware and algorithms to advance space automation and robotics. Target applications of the research include spacecraft servicing, spacecraft de-orbit and in-space assembly of large space platforms for exploration and remote sensing. The lab includes a 7DOF robotic manipulator, machine vision systems, and targets representative of geosynchronous spacecraft. Potential student projects include implementation of impedance control for safe docking, mechanical design and assembly of the spacecraft servicing testbed, development of vision-based guidance algorithms, visualization, and test support. The interested candidate will receive a hands-on learning experience in robotics and machine vision.