

**Department of Mechanical and Materials Engineering
COLLEGE OF Engineering and Applied Science**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 2, 2015

The Department of Mechanical and Materials Engineering is pleased to offer the following research project for the summer of 2015. 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.

Center for Robotics and CMII Projects

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Project Description

The Center for Robotics Research and the Collaboratory for Medical Innovation and Implementation have a number of potential projects for interested undergraduates. These projects fall under two categories: 1.) control of intelligent ground (or air) vehicles and control in a medical and 2.) health environment smart house for assisting the elderly in staying in their homes.

There are a number of existing medical and health projects that the student can choose: 1.) the exoskeleton for the elderly; 2.) using the Microsoft Kinect for fall detection for the elderly; 3.) tele-health robots for diagnosis for the elderly; and the control of a smart house sensor environment.

There are a number of existing intelligent vehicle projects that the student can choose: 1.) control of an unmanned air vehicle (UAV)—a quadcopter and 2.) control of an unmanned ground vehicle (UGV)—the Intelligent Ground Vehicle Competition robot.

We would also welcome a topic of the student's choice related to the above categories.