College of Engineering
Summer Research Experience for Undergraduates Program

Request for an Engineering Student for Summer 2011 Research

Faculty Name _____Robert W. Jackson
Phone 5-1386_______________________________________________________

Department ___ECE_____________Email: _______jackson@ecs.umass.edu_

Brief description of Summer Research Project (please explain the interdisciplinary nature of this project).

We intend to look at improving the spectral purity and efficiency of signal sources used in electronically steered antenna arrays. This will be done by coupling a large number of low cost oscillators together via intentional coupling within the array panel. Using the panel printed circuit board as a coupling mechanism has not been done before. Increased spectral purity makes arrays less sensitive to interfering signals and improves the sensitivity of radars that use such arrays.

Brief description of what the student will be doing:

The student will build a small prototype with 9 oscillators and measure the noise level when various numbers of oscillators are engaged.

Is this a CASA-related project? Yes ___ No ___

Preferred background of student (major(s), class, GPA, pre-requisites, etc.):

Grade of B+ or better in ECE323 and ECE324

Did you mentor a student last summer in the College REU Program? Yes____ No _X__

If yes, please describe the outcomes for that student (i.e. Honor’s thesis, conference presentations, manuscripts, papers, etc. Describe accomplishments to date as well as plans for the spring semester if the work has continued):

Please return this form to:

Lorraine Robidoux,
REU Program Coordinator
129 Marston Hall

By Friday, February 15, 2011