College of Engineering
Summer Research Experience for Undergraduates Program

Request for an Engineering Student for Summer 2012 Research

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

The project will focus on developing a conceptual structural solution for multi-rotor turbines used for offshore wind energy generation. This concept is currently being explored in collaboration with Professors Manwell and Lackner from the MIE Department as a potential solution to reach economically feasible solutions for offshore wind energy generation. The project will incorporate the design concepts that are necessary to employ from the mechanical and structural aspects of wind energy generation, giving the project a multi-disciplinary approach.

Brief description of what the student will be doing:

The student will be working with structural analysis software available in College of Engineering computers (CEE) to analyze and design potential structural solutions to support multiple rotors in wind turbines designed for offshore applications. The potential solutions will be explored using static and dynamic analyses procedures. The dynamic input will be developed in collaboration with colleagues from the MIE department. A preliminary design of the most promising solutions will then be executed toward the end of the project term.

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

Preferred background of student (major(s), class, GPA, pre-requisites, etc.):
Preferred major is CEE, with a GPA of 3.2 or above. The student must have taken CEE331 (Structural Analysis) to get the highest benefit from this REU project.

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):