Faculty Member Contact Information

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Description of the URCA Assistant Position

This posting includes one funded position. In addition, the faculty member may be willing to mentor additional, unfunded students.
How many unfunded students is this professor taking in addition to his/her one funded student? __1__
(Students, if the faculty member will have both funded and unfunded students, he or she is free to select which student receives the funding. Funding cannot be split up between multiple students; only one student will receive it.)

Which of the following apply to this position?

[X] This position is **only** open to students who have declared a major in this discipline.
[ ] This project deals with social justice issues.
[ ] This project deals with sustainability (green) issues.
[ ] This project deals with human health and wellness issues.

How many hours per week will your student(s) be required to work in this position? __9__
(Minimum is 6 hours per week; typical is 9.)

Will it be possible for your student(s) to earn course credit? [ ] Yes [X] No
If yes, in which course? N/A **If yes, for how many credit hours?** N/A

Location of research/creative activities: EB 0036

Brief description of the nature of the research/creative activity:
Joint clearance effect on machine performance: Realistic joints don't work exactly as they were set in most available multi-body dynamics algorithm. To precisely predict joint performance, a sophisticated model must be created.
Student will learn how to analyze the dynamics of linkage through numerical method. When clearance is considered in the model, student together with the advisor will develop an applicable algorithm to capture the effects caused by joint clearance.

Brief description of student responsibilities:
Student will first do a literature review on "Joint clearance effect on machine performance".
Student may write a simply multi-body dynamics program to simulate dynamics of a four bar linkage mechanism connected by joints with joint clearance.
The second step will be performed under the guidance of the advisor.

URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?
Student will learn how to do literature review; learn how to do dynamics analysis of a four bar linkage;
learn how to write a simple multi-body dynamics program.

Requirements of Students

If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours), please indicate all required days and times:
I have no time requirement on this project.

If the location of the research/creative activities involves off campus work, must students provide their own transportation?
no off campus work for this project.

Must students have taken any prerequisite classes? Please list classes and preferred grades:
ME262 and ME350

Other requirements or notes to applicants:
no other requirements