DEPARTMENT OF MECHANICAL & MATERIALS ENGINEERING  
COLLEGE OF ENGINEERING AND APPLIED SCIENCES  
SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN  
APPLICATION DEADLINE: 03/01/2017

PROJECT TITLE: Development of a graphical user interface (think of Iphone app) to predict failure during Mechanical bonding

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**Project Description**

a. Background: P&G uses mechanical bonding process to join different materials by sandwiching them between two rolls. Currently, there is a strain to failure tool available in the Matlab software to predict material failure during the bonding process. This tool requires Matlab software installation. Making these tools easy to use in an "app" or a web based interface will enable wider usage by the P&G employees with internet access only.

b. Research Area: Development of a simple, easy to use Web based interface (or "app").

c. Research Tasks:  
(i) Conduct online search on what is the easiest "App" to build.  
(ii) Build an "App" for the Strain to failure tool.  
(iii) Test the "App" to ensure it predicts correct results.

d. Training/Support:  
(i) Mentors will provide suggestions/feedback on the "App".  
(ii) Mentors will provide access to software packages to assist in the research tasks.  
(iii) Mentors will meet weekly with students (preferably at UC Sim Center).
e. Additional Expectations:
   i. Conduct online searches to seek answers to the research tasks.
   ii. Provide brief weekly summaries of progress.
   iii. Provide final summaries of each research task.

Desired Student Major: Computer Science/Engineering.