Senior Design Project Description for SPRING 2017
Project Title: Dishwasher Automatic Wash System (SEAIR_WASH)

Supporter: Sealed Air

Supporter Technical Representative: ASSIGNED

Faculty Mentor: _____ ASSIGNED ___X___ TBD (check one)

Single Team ___X___ Dual Team _____ (check one)

Personnel (EN/ET): ___3___ E, _____ Cp, _____ Cv, ___3___ M, _____ SE

(Complete if the number of students required is known)

Expected person-hours: (250 per student)

Description of Project:

Diversey Care is a division of Sealed Air that provides smart, sustainable solutions for cleaning and hygiene. Included in this product line is the dispensing of soaps and chemicals for industrial dishwashers. Currently there is a water temperature/conductivity probe in some washer designs and nothing in others. This probe is subject to scaling and provides only a manual indication of temperature and conductivity with the dishwasher open.

This project is to design a temperature/conductivity probe that is less prone to scaling and wirelessly communicate with the dispensing system.

Initial Project Requirements (e.g. weight, size, etc.):

The initial requirements for this device are:
- Fit in the water reservoir at the bottom of the washer
- Be able to float in any position
- Reduce scaling
- Read conductivity via inductive means
- Hibernate when the dishwasher is not in operation
- Accelerometer to "wake up" the device when dishwasher operation begins
- Battery requirements will be provided later
- Wireless communication to control chemical dispensing based on conductivity and temperature and provide high and low alarms (dispensing control system within 3 meters of the dishwasher
- Design for a normal temperature range of 65 ^{0}C to 85^{0}C with a maximum range of 60 ^{0}C to 90^{0}C
- Wireless signal must be able to work with a stainless steel dishwasher housing

Expected Deliverables/Results:

A tested prototype is to be provided. It is to include an operating manual with drawings.

List here any specific skills or knowledge needed or suggested (If none please state none):

None