Homework Assignment #1 ELEC 7970 Due: Wed. 1/28/15

Select a research topic for your Extended Abstract and 20 min Class Presentation related to advanced sensors. Submit by email (to deanron@auburn.edu) by 5:00pm Wednesday, 1/28/15, (1) a topic area for your presentation and (2) a description of how you plan to obtain the information for your presentation (actual research activities, from journal/conference presentations, visiting relevant facilities, etc.).

Some possible topics include:

- A particular sensor technology
- Nano technology sensors
- Automotive sensors
- Biomedical sensors
- Yield issues in sensor microfabrication
- Sensor aging
- Sensor reliability
- BIST for sensors
- A history of a sensor technology, such as gyroscopes
- A patent study of a sensor technology
- A summary of presentations from a recent sensors conference
- Sensing mechanisms
- A survey of a commercially available sensor technology, such as accelerometers
- Failure mode analysis of a sensor type/technology/brand/etc.
- Modelling/simulating a sensor type/technology/etc.
- Sensor testing
- Design/development of a sensor or sensor technology
- A sensor technology not covered in ELEC 5760/6760/7970
- A sensor based system, such as the Mars Rover, or a remote weather station
- A multi-sensor application, such as volcanic monitoring
- State-sensing coupled with state-estimation
- Sensor interface electronics
- Signal processing for sensors/sensor systems
- Sensors requirements for a system, such as a large power supply, automotive, etc.
- Filtering technologies applied to sensors
- Packaging technologies for sensors
- Power supplies for remote sensors
- Communication systems for remote sensing applications