Homework Assignment #3 **ELEC 7970** **Due: Thur. 9/18/25**

Select a research paper for your project related to linear, nonlinear and/or chaotic oscillators. Send me a PDF of your selected paper by email (to deanron@auburn.edu) by 5:00 pm Thursday, 9/18/25. The research paper should be a journal or conference paper published within the last 5 years* (2020 or later). At the end of the semester, you will present the paper to the class in a PowerPoint quad chart format, with a 5 min time limit.

Some possible topics include:

- Oscillator implementations
- MEMS resonators
- Mechanical oscillating systems (vibratory, audio, thermal, etc.)
- Any chaotic oscillators
- GHz/THz oscillators
- VCOs
- PLLs/FLLs
- AGC techniques
- DDS
- Quantum or superconductivity based oscillators
- Oscillators in systems (GPS, gyros, communications, radar, etc.)
- Chaotic oscillating phenomenon such as flutter
- Other applications using oscillators
- *Historical oscillators or vacuum tube oscillators can be pre 2020

Some possible journal and conference sites to consider:

- Chaos: https://aip.scitation.org/journal/cha
- IEEE Xplore: https://ieeexplore.ieee.org/
- ASME: https://www.asme.org
- IOP journals: https://iopscience.iop.org/
- Science Direct journals: https://www.sciencedirect.com/
- Elsevier journals: https://www.elsevier.com/catalog?producttype=journal
- AIP journals: https://aip.scitation.org/
- Google Scholar: https://scholar.google.com/