**Background & Motivation**

- Human activities such as agriculture and urban development can send pollutants into the local ecosystem and negatively affect the environment.
- Monitoring water quality is therefore important to determine any pollutant releases and to quickly resolve them.
- **Conductivity** is a measure of resistance to current over some area, often converted to a measure of total dissolved solids for this reason (Pawlowicz, 2008).
- **pH** is a parameter used to describe the hydrogen activity in a solution, specifically by defining the acidity or basicity of water (Ramjukadh et al., 2018).
- **DO** is important because many organisms are very sensitive to seemingly small changes in pH.
- **Dissolved Oxygen (DO)** refers to the level of free, non-compound oxygen present in water or other liquids and relevant sources for this study are photosynthetic oxygen production and the introduction of DO from other sources.
- **DO** is important because values for water bodies lower than 4 mg/L will become stressful and dangerous to aquatic life.
- Data site used is the 544 West site on the CCU campus (Figure 1).

**Data and Method**

- Data collection has been on going biweekly since October 2011, and recorded data referenced goes through November 2020, totaling between 700 and 750 samples.
- All sample data is stored for public access on the CCU website.
- Data was collected using a Thermo Scientific™ Orion™ Star A329 pH, ISE, Conductivity, DO, and RDO Portable Meter (Orion™ A329 multi-meter), an extendable pole with a ~1-quart bucket fixed to it, and printed data collection sheets (Figure 2).

**Materials and Method**

- Tools used for data collection (Orion™ A329 multi-meter, extendable pole with a ~1-quart bucket fixed to it, & data collection sheets).

**Results and Discussion**

- **Conductivity** appears to be seasonally affected by plant growth and decay due to filtration of organic matter.
- **Outlier** in 2015 could have been a result from Tropical Storm Ana as flood waters may have deposited organic matter that would have then decayed and increased **pH** (Yevenes et al., 2018).
- **DO** appears to be seasonally affected as it tends to reach highs in the Springs and lows in the falls, DO increased seasonally due to photosynthesis (Kükrer & Mutlu, 2019).
- **DO** appears to be seasonally affected by water temperature as cooler water has higher DO and warmer water has lower DO (El-Agha et al., 2020).

**References**


**Conclusions**

- **pH** levels remained relatively constant.
- Weather phenomena may increase **pH**.
- Conductivity and DO are seasonally affected by plant growth and decay due to filtration of organic matter.
- **DO** is higher in cooler temperatures (winter) and lower in warmer temperatures (summer).