37. **Custom Peltier Environmental Chamber and Visualization System**

- Custom built (Rame-Hart)

- **Specification:**
  - Peltier stage temperature range: -20°C and +80°C
  - Environmental chamber humidity range: 5% ~ 95% with a 0.1% resolution (by humidity controller in ante chamber)
  - An ante chamber will be included for formation and regulation of humidity treated air flow which will cycle through the chamber.
  - Environmental chamber have (3) quartz windows: one on the top (for top view); one in the front; and one in the rear.
  - Environmental chamber will be easily accessible using quick-release retention thumbscrews.

- **Manual microscope**

- **Objective**: Long working distance 5X, 10X, 20X (Mitutoyo, long working distance)

- **CMOS camera**: acA1440-220um - Basler ace (up to 220 fps)

- Custom built environmental chamber is mainly used to characterize coupon scale sample in a humidity and temperature-controlled chamber.