# Summary

Hall A – GEM
Peter Bonneau, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, Marc McMullen
- Tested third of original pressure regulators; significant leak from high side to atmosphere side of diaphragm (same as first two)
- Tested new pressure regulator for gas distribution; no leaks
- Installed pressure panel with new pressure regulators in the rack
- Developed WEDM screen for remote monitoring of gas flow
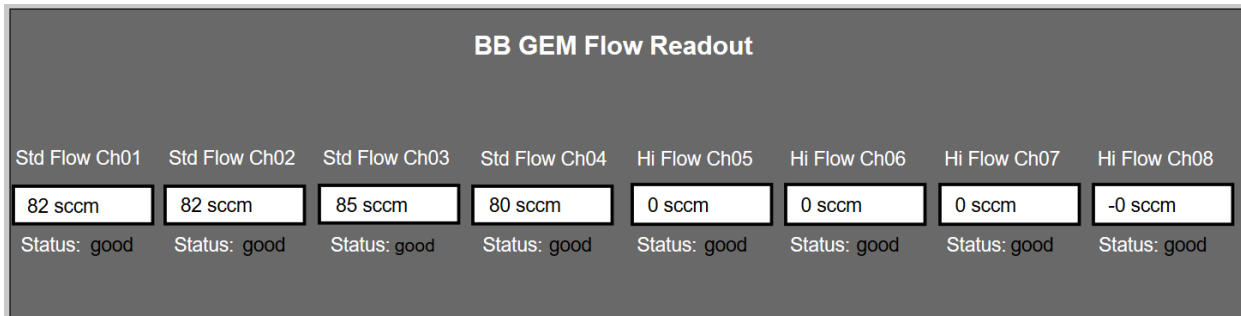
Prototype remote monitoring WEDM screen

- Integrating pressure sensors in gas flow readout software to remotely monitor pressure
- Terminated 128 of 272 BigBite DAQ cables' BNC connectors

Hall A – SoLID Magnet Controls
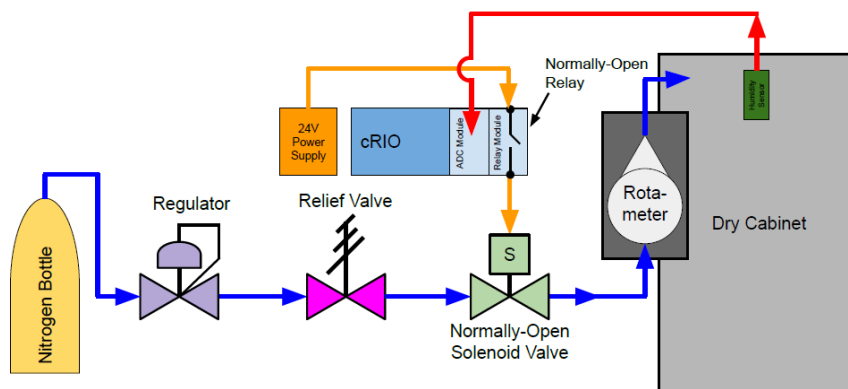*Pablo Campero*
- Developing code to save parameters displayed on *Valve Setup* CSS-BOY screen
- Populated one of eight constant current source PCBs

Hall B – RICH II
Peter Bonneau, Tyler Lemon
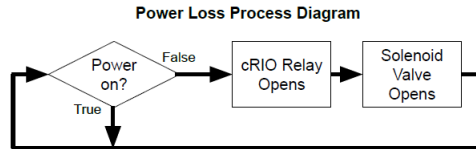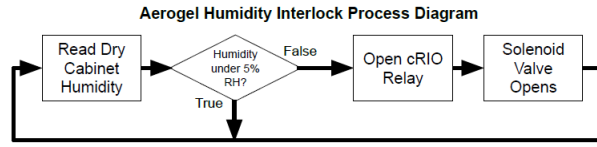- Developed fail-safe nitrogen supply system for new dry cabinet

Fail safe nitrogen supply system

Aerogel Humidity Interlock Process Diagram

| Read Dry Cabinet Humidity | → | Humidity under 5% RH? | False → | Open cRIO Relay | → | Solenoid Valve Opens |

True ↓

Power Loss Process Diagram

| Power on? | False → | cRIO Relay Opens | → | Solenoid Valve Opens |

True ↓

Process diagram for new dry cabinet's nitrogen supply system

- Researching I^{2}C buffer drivers for interlock system
  - ✶ I^{2}C buffer driver is capable of communicating over 100 ft. long cable runs

Hall B – SVT
*Peter Bonneau, Mindy Leffel*

- Started software/hardware tests to verify system operation after the installation of the quick disconnect system for the cables

Hall C – NPS
Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, George Jacobs, Mindy Leffel, Tyler Lemon

- Developing and reviewing engineering drawings and documentation of detector cooling design to finalize placement of sensors and select support instrumentation
  - ✶ The two chillers (Kodiak models RC006G03BG3 and RC011G03BG3) do not measure coolant flow – external flow sensors will be needed for flow and pressure measurement
- Generated three-dimensional surface plots of dew point as a function of temperature and relative humidity, using Python and Mathematica, and parametric plot to aide in development of Hardware Interlock System

Dew Point as a Function of Temperature and Relative Humidity
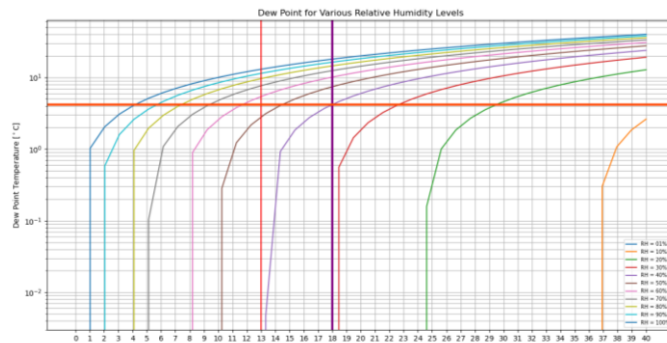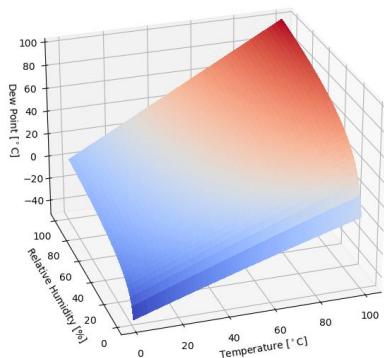
Three-dimensional surface and parametric plots (Python) of dew points for Hardware Interlock System development.

- Generated 985 of 1080 PMT Settings screens
- Compiled voltage ramp testing plots for 20 HV CAEN modules, 720 of 1188 channels
- Terminated three Radiall 52-pin connectors for multi-conductor HV cables; nine of 40

EIC
Brian Eng
- Planned work in 2021 for tracking detectors; mainly furthering the engineering design
- Attended CD1 meetings