# Proposal for BootCamp Agenda

DAY 1 – Friday October 13

* **Introductions**
* **High Level Overview of the IEC 61850 standards (3 Hours) - Christoph**
  + Objects
  + Services
    - GOOSE
    - Sample Values
* **High Level overview of NERC CIP and IEC 61850 (NERC if available – Tobias Whitney or somebody else from NERC)** – 1 hour
* **Using 61850 outside of the substation – (Paul Myrda , Frances) – 1 Hour**
  + Control Center
  + DER - Frances
* **Project Management: The good, the bad, and the ugly (Herb, Chan) – 1 hour**
* **Ethernet Network Design for 61850 (1 hour)**
  + Introduction to Ethernet Network Configuration (PRP, HSR, RSTP)
  + Overview of Ethernet network fault detection and isolation, path reconfiguration and reestablishment of packet flow
    - Basics of IEC-62439 Spanning Tree Algorithm (STA), Rapid Spanning Tree Protocol (RSTP)

Day 2 – Saturday October 14

* **Time Sync Resiliency - OMICRON (30 Minutes, Bernhard/Matthias/Thomas)**
* **How to test (maybe some hands on?) (OMICRON , DOBLE, SEL) 4 Hours**
  + **IED 61850 Bench Testing**
  + **Operational System Testing (Thomas 1hour)**
    - Test isolation
      * Appropriate Use of Simulation, Mode, Behavior
  + **Measuring packet delivery latency (Network Transit Time, Matthias 0.5 hour))**
    - Concepts
    - Network Measuring
    - IED Measuring
  + **Detecting GOOSE and SV delivery failure events (LGOS)**
    - Delayed packets
    - Lost packets
    - Duration of failed packet delivery
  + **Live demo and discussion**.
* **NERC CIP and IEC 61850** (1 hour) -SEL
  + Defense in depth, introduction to NIST 800-37 guide to implementing the Risk Management Framework (RMF) (30 minutes)
    - Key standards and guidelines for managing risk
    - Introduction to NIST Special Publication 800-53 guidance for security controls
    - Detect and isolate threat; respond and reconfigure secure path; recover and restore information exchange
* **Overview of the Interop – Bruce (30 Minutes)**

**Feedback on the Agenda due by: June 23rd.  
  
Bios and pictures due: July 7th.**