# 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.**