

The INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, Inc.
Eastern Idaho Section
Idaho Falls Informal Seminars

TOPIC: ICIS/IEEE/ISA “Brew with the Crew” presents: Making Your Battery Step up to the Plate
SPEAKER: John Christophersen, Idaho National Laboratory
DATE: Thursday, October 21, 2010
TIME: 4:30P.M.
PLACE: Hard Hat Steakhouse and Grill, 1175 Pier View Drive (Snake River Landing), Idaho Falls, Idaho
COST: Order your drinks from the menu. Light hors d'oeuvres provided by the crew organizers.

Abstract:

Developing Modeling Capability to Predict Life of Batteries

The goal of Technology Life Verification Testing (TLVT) is to verify the battery life capability with high statistical confidence and minimal testing. Both a battery life model and error model are needed for accurate life prediction. The life model should adequately cover the anticipated range of stress factors, and the error model must account for both manufacturing variability and measurement error. Based on these models, an estimate of life can be determined through Monte Carlo simulations and verified with actual test data. A user-friendly software tool was developed for the analysis and simulation of battery test data using statistically robust methods based on a default model. A description of the TLVT methodology and the available software tool will be presented.

IEEE members make plans to join your colleagues for the October informal technical seminar series event “Brew with the Crew*” organized by the INL’s Instrumentation, Controls and Intelligent Systems (ICIS) Distinctive Signature, the Eastern Idaho Section of the Institute for Electrical and Electronics Engineers (IEEE) and the Idaho Falls branch of the International Society of Automation (ISA).

Biography:

Jon P. Christophersen received a B.S. and M.S. in electrical engineering from the University of Idaho (Moscow, ID) in 1999 and 2005, respectively, and is presently a Ph.D. candidate at Montana State University (Bozeman, MT). He has been a research engineer with the Energy Storage and Transportation Systems Department at the Idaho National Laboratory in Idaho Falls, ID since February 2000. He has lead responsibility for all high power cell testing, analyses, and reporting under the Department of Energy’s Applied Battery Research and Technology Life Verification Testing Programs, as well as various battery and ultracapacitor manufacturer deliverables as part of the U.S. Advanced Battery Consortium (USABC) Program. His work activities include the investigation and successful implementation of novel testing profiles and procedures, developing new analysis techniques, developing and validating various life predictive modeling and prognostic tools, and coordinating complex testing and analyses between various national laboratories. His research interests include battery life prognostics and state-of-health estimation. He has authored or co-authored over 15 peer-reviewed journal publications. He also has one patent, and numerous conference proceedings papers and presentations related to energy storage.

*Brew with the Crew is an after work event, that takes place every third Thursday of the month at the Hard Hat Steakhouse and Grill to provide an opportunity for instrumentation, control and intelligent systems researchers and practitioners to interact with others in their community.

***** VISITORS AND NON-MEMBERS ARE WELCOME *****

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