November 2012 Newsletter

Joint Section Chapter – Boston - New Hampshire - Providence

September 2012 – November 2012

http://www.ieee.org/bostonrel

Greetings,

It has been an exciting fall season for the IEEE Boston Reliability Chapter. I have been traveling a lot for work, but have had a great deal of help from the other volunteers in our chapter finding interesting speakers, helping with publicity such as this newsletter, and handling all sorts of chapter logistics such as meeting arrangements.

In December, we will have an interesting presentation at our annual Past Chairs meeting. The speaker is the ESD (electrostatic discharge) expert and consultant Ted Dangelmayer, who will include hands-on demonstrations. Check our web site for information and registration for this event, which will be on Wednesday, December 12, 2012 at MIT Lincoln Laboratory in Lexington, MA. In January, we will take a one-month hiatus. In February, we are presently working on getting a speaker from MIT Lincoln Laboratory. In March, our meeting with be a joint event with the ESD Association. In April and May, we are presently pursuing speakers on topics that include telecommunications, genetics, statistics, and failure analysis.

Our chapter elections will be held soon, with voting at our web site. We will be choosing our Reliability Chapter officers for 2013: Chair, Vice-Chair, Secretary, and Treasurer. Check our web site. And, contact any of us to find out how you can get involved. You are welcome to attend any of our monthly presentations or our AdCom (Advisory Committee) meetings.

I hope to see you at our next meeting,

Dr. Dan Weidman
2012 Chair

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Recent Activities

September 12, 2012	"Analyzing High-Power Semiconductor Laser Reliability", Gary Smith, Ph.D., MIT Lincoln Laboratory, held at MIT LL, Lexington, MA.
October 17, 2012	"Counterfeit Semiconductor Products: The #1 Threat to Electronics Reliability", Andrew Olney, Director of Reliability, Product Analysis, Calibration & Electronic Discharge, Analog Devices, Inc., held at Teradyne, North Reading, MA.
November 14, 2012	"Two Case Studies in Failure Analysis: 138-kV Subsea Cable Failure, and Fires in Packaged Terminal Air Conditioning Units", J. Duncan Glover, Ph.D., P.E. – Consultant, Failure Electrical LLC, held at Teradyne, North Reading, MA.

Upcoming Events

December 12, 2012	"ESD Damage – A Surprisingly Dominant Quality and Reliability Failure Mechanism", Ted Dangelmayer. Co-sponsored by ESD (Electrostatic Discharge) Association, at MIT Lincoln Laboratory, Lexington, MA.

Awards & Recognitions

September 12, 2012	IEEE Boston – New Hampshire – Providence chapter wins 3rd place among IEEE Reliability chapters in the world.

Recent Activities

September 12, 2012

"Analyzing High-Power Semiconductor Laser Reliability" by Dr. Gary Smith

On Wednesday, September 12, 2012, at MIT Lincoln Laboratory in Lexington, MA, Dr. Gary Smith, an engineer at MIT Lincoln Lab, spoke about Analyzing High-Power Semiconductor Laser Reliability. Dan Weidman has worked with Gary and was pleased that he accepted our invitation to speak. His talk included interesting material about lasers that was relevant to reliability analysis in general.

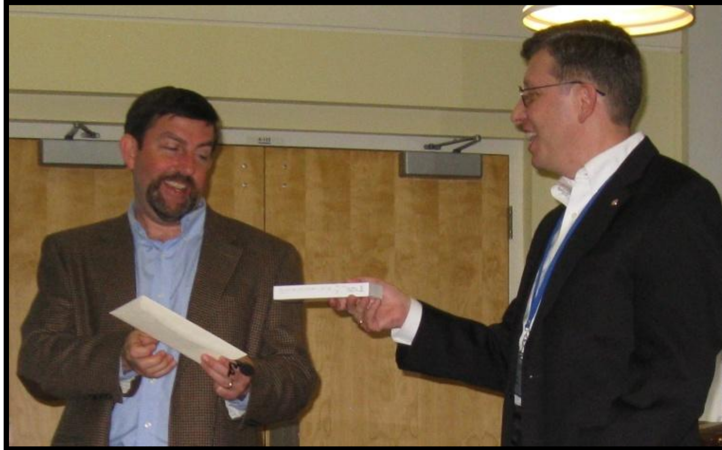

Figure 1. Gary Smith, Ph.D, receives thank you letter and laser pointer from Dan Weidman, Ph.D, Chair IEEE Boston Reliability Chapter.

October 17, 2012

"Counterfeit Semiconductor Products: The #1 Threat to Electronics Reliability" by Mr. Andrew Olney

On Wednesday, October 12, Andrew Olney spoke at our meeting, which was held jointly with the IEEE Boston Reliability Chapter and the Northeast ESDA (Electrostatic Discharge Association). As with all of his talks, Andrew's talk was very interesting. He is one of the nation's leading experts on ESD and Counterfeit Parts. His talk was "Counterfeit Semiconductor Products: The #1 Threat to Electronics Reliability." I learned that counterfeit parts are now becoming so difficult to distinguish from a genuine part that it is essential to purchase directly from the manufacturer or from an authorized distributor with complete traceability, whenever possible.

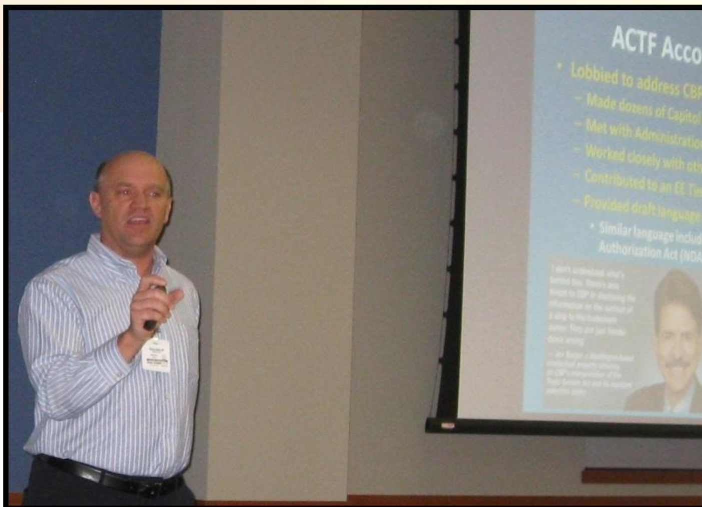

Figure 2. Andrew Olney, speaker of the October 2012 Monthly IEEE Boston Reliability chapter.

November 14, 2012

"Two Case Studies in Failure Analysis: 138-kV Subsea Cable Failure, and Fires in Packaged Terminal Air Conditioning Units" by Dr. J. Duncan Glover

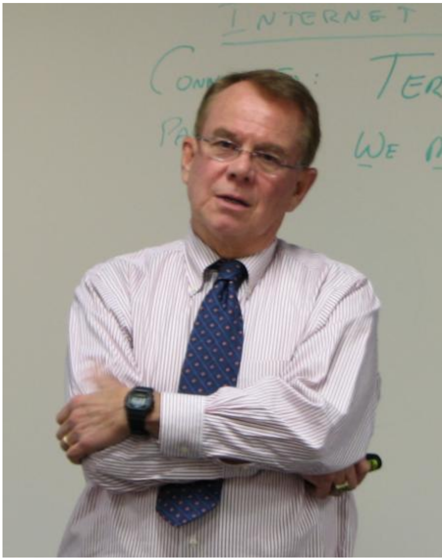

Figure 3. Dr. J. Duncan Glover

On Wednesday, November 14, Dr. J. Duncan Glover was our speaker. Dr. Glover has many years of experience as an expert consultant in electrical engineering issues, particularly power systems, as they relate to legal cases; his Ph.D. is from MIT, and he has co-authored a couple books, book chapters, and many papers. He is also an IEEE Senior Life Member. He presented on two cases in which he testified that were so interesting that the audience asked many questions throughout, even though the talk ran much later than usual. His presentation was, "Two Case Studies in Failure Analysis: 138-kV Subsea Cable Failure and Fires in Packaged Terminal Air Conditioning Units." The first case was a fascinating account of a failure in the undersea cable link from the electrical grid in Connecticut to Long Island, and the subsequent failure analysis. This analysis was essential in determining culpability, because the cable repair cost $16 million. The second case involved air conditioner units that caused fires, when in heat mode, due to a crimp on the power cord hot wire that was done in China by a crimping tool that was not from the crimp-connector manufacturer. The many pictures in both presentations made it particularly interesting to follow the logic path of both investigations.

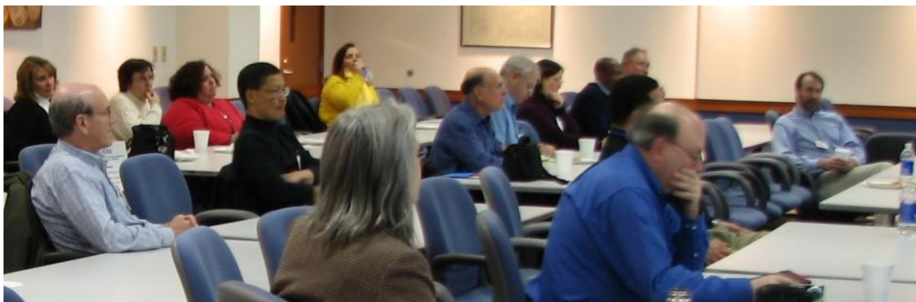

Figure 4. Interested audience during Dr. Glover's talk.

Upcoming Activities

“ESD Damage – A Surprisingly Dominant Quality and Reliability Failure Mechanism” by Ted Dangelmayer.

Co-sponsored by ESD (Electrostatic Discharge) Association, at MIT Lincoln Laboratory, Lexington, MA.

Join us for the highly interactive discussion and learn about the multitude of sources of ESD damage and the best practices for prevention recently recognized sources of ESD damage. While most companies are acutely aware of the hazards of ESD (electrostatic discharge), few are aware of just how pervasive ESD failures actually are. This tutorial will shed light on multiple sources of ESD damage and the circumstances where ESD failures dominate. Recent studies into the misdiagnosis of EOS failures suggest that ESD damage is, in fact, occurring much more often than previously realized – especially at the circuit board level where ESD failures can dominate. This fact is compelling justification for strong management support. The audience will also learn which are the most frequent quality and reliability ESD failure mechanisms among CDM (Charged Device Model), HBM (Human Body Model), MM (Machine Model), CBE (Charged Board Event), and CDE (Cable Discharge Event).

Location:
Building: Main Cafeteria
MIT Lincoln Laboratory
244 Wood Street
Lexington, Massachusetts
United States
Date: 12-December-2012
Time: 05:30PM to 08:00PM (2.50 hours) **All times are:** US/Eastern

Awards & Recognitions

On Wednesday, September 12, 2012, at the IEEE Boston Reliability monthly meeting at MIT Lincoln Laboratory in Lexington, MA, Dr. Dan Weidman, 2012 Chair IEEE Boston Reliability Chapter presented an award to Ramon De La Cruz for his outstanding contribution as the previous Chair of the IEEE Boston Reliability Chapter, winning 3rd place among all IEEE Reliability chapters in the world.

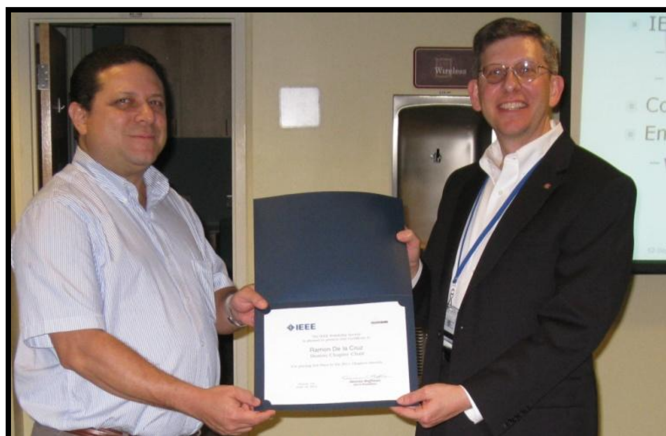

Figure 5. Ramon De la Cruz receives award for our chapter winning 3rd place among IEEE Reliability chapters in the world.

The IEEE Reliability Society Joint Section Chapter
– Boston - New Hampshire - Providence
November Newsletter is available at the following link:

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or copy and paste the URL below on your browser

http://ewh.ieee.org/r1/boston/rl/newsletters/boston_chapter_newsletter_nov12.pdf