



## The IEEE Reliability Society Joint Section Chapter: Boston - New Hampshire - Providence November 2023

<https://r1.ieee.org/boston-rl/>

### Welcome to the Boston Chapter Newsletter:

The joint chapter hosted one presentation this quarter and we were delighted to provide a hybrid meeting hosted by MIT Lincoln Labs. Dr. Alfredo Díaz González presented “The State of the Art in Material Characterization for Electronics.” See Meeting Highlights below.

If you are interested in hosting and/or presenting at a monthly meeting, being added to the meeting notifications, or attending an AdCom meeting, send an e-mail to Jay Yakura, Vice Chair [james.yakura@ieee.org](mailto:james.yakura@ieee.org) or Mike Bannan, Chair [michael.bannan@ieee.org](mailto:michael.bannan@ieee.org). We are always working to fill the calendar with reliability presentations months in advance.

You may find links to scheduled meetings on <https://events.vtools.ieee.org>; search for region 1, section Boston, CH01021. Our chapter site is <https://r1.ieee.org/boston-rl/>, and archived presentations may be found at <http://www.ieee.org/bostonrel>.

We welcome new members to the Advisory Committee and discussion questions.

### Upcoming Activities

**Future Presentations:** December 13, 2023 and January 17, 2024 see details below.

**2024 AdCom officer election:** will close December 4. Candidates are listed below.

**AdCom meetings:** January 9 and February 20 - target dates.

## Meeting Highlights:

October 11, 2023:

### **“The State of the Art in Material Characterization for Electronics”**

Dr. Alfredo Díaz González, Applications Specialist, NanoAnalysis, Oxford Instruments

28 Participants

Dr. Alfredo Díaz González gave a dynamic overview of a variety of techniques used in materials analyses. The presentation offered an overview of characterization techniques, discussing how the techniques work and what information can be obtained from them. Some examples of applications were shared to illustrate how they can solve research problems. Scanning Electron Microscope (SEM) based techniques are commonly used to characterize materials. For example, Energy Dispersive Spectrometry (EDS) is used to identify chemistry distribution within a surface while Electron Backscatter Diffraction (EBSD) provides information about the grain size, crystal structure and orientation, among others. Sample surface images at sub-micron and film thicknesses at sub-nano scales had impressive results for measurements in R&D and manufacturing scenarios. Mapping microstructure characterization created vivid images reminiscent of 1970's pop art to understand where and why failures occurred in solder microbumps and through silicon vias.

The meeting invitation and presentation slides may be found at the following links:

[Event/the-state-of-the-art-in-material-characterization-for-electronics](#)

[IEEE-The-State-of-the-Art-in-Material-Characterization.pdf](#)

### **Future Presentations:**

December 13, 2023 (Hybrid Event)

Dr. Mohammad Pourgol, Teradyne

“Complex Electronics Reliability and Life Modeling Based on Physics of Failure Simulation”

January 17, 2024 (Zoom Event)

Arun Gowtham, Owtrun

“Machine Learning and Artificial Intelligence and Their Uses in Reliability”

March 13, 2024 – in negotiations

February 7, April 10, May 8, & June 12, 2024 - TBD

Looking for speakers. Contact Jay Yakura or Dan Weidman if interested.

## Advisory Committee (AdCom) Members 2023

Chair: Mike Bannan – BAE Systems [michael.bannan@ieee.org](mailto:michael.bannan@ieee.org)  
Vice Chair: Jay Yakura – Retired [james.yakura@ieee.org](mailto:james.yakura@ieee.org)  
Secretary: Don Markuson - Silicon Labs [d.markuson@ieee.org](mailto:d.markuson@ieee.org)  
Treasurer: Don Markuson - Silicon Labs [d.markuson@ieee.org](mailto:d.markuson@ieee.org)  
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Newsletter: Mary Jones – Analogic Corporation [maryajones@ieee.org](mailto:maryajones@ieee.org)  
Publicity: Vacant  
Members at Large:  
Dan Weidman - MIT Lincoln Laboratory [danweidman@ieee.org](mailto:danweidman@ieee.org)  
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Mohammad Pourgol, Teradyne [mohammad.pourgol@teradyne.com](mailto:mohammad.pourgol@teradyne.com)

## 2024 AdCom Electoral Candidates

Chair: Jay Yakura – Retired [james.yakura@ieee.org](mailto:james.yakura@ieee.org)  
Vice Chair: Dan Weidman - MIT Lincoln Laboratory [danweidman@ieee.org](mailto:danweidman@ieee.org)  
Secretary: Don Markuson - Silicon Labs [d.markuson@ieee.org](mailto:d.markuson@ieee.org)  
Treasurer: Don Markuson - Silicon Labs [d.markuson@ieee.org](mailto:d.markuson@ieee.org)

## Chapter Seeks Volunteers

The IEEE mission is Advancing Technology of Humanity.

The IEEE Reliability Society mission is Promoting recognition of the reliability profession, developing, and disseminating reliability best practices, and being a resource for collaboration among reliability professions.



As a volunteer organization, our success is directly related to having people like you involved in the planning and execution of our meetings and communication processes.

Please consider joining us.

You may find URL links to all the meetings on <https://events.vtools.ieee.org>, - search for region 1, section Boston, CH01021. For updates on upcoming events see the IEEE Spectrum or contact Jay Yakura [james.yakura@ieee.org](mailto:james.yakura@ieee.org) or Dan Weidman [danweidman@ieee.org](mailto:danweidman@ieee.org) to be added to our notification list or our Advisory Committee. Your contributions may be as much or as little as you would like.

## **Consider Reliability Society Membership**

Society Membership includes: - Society Newsletter (electronic),  
- IEEE Transactions on Reliability (online),  
- IEEE Reliability Society Conference Digital Library (online), and  
- IEEE Reliability Society Resource Center (online).

Readers can contact chapter newsletter editor Mary Jones ([maryajones@ieee.org](mailto:maryajones@ieee.org)) with any comments, suggestions, or if interested in contributing to our next issue.

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