



**The IEEE Reliability Society
Joint Section Chapter: Boston - New Hampshire - Providence
February 2022**

<http://www.ieee.org/bostonrel>

Welcome to the Boston Chapter Newsletter:

We are pleased to share election results and the details of two meetings in December and February. While we miss the in-person networking, on-line applications have allowed the IEEE Reliability community to gather virtually with subject matter experts to converse about applications and solutions. Our next presentation is March 9th, 2022.

Officer elections were finalized December 3rd, 2021, as shown below. We appreciate the dedication shown by these volunteers to lead and support the local and global reliability community.

Chair: Mike Bannan – BAE Systems
Vice Chair: Jay Yakura – Retired from Analog Devices
Secretary: Don Markuson - Silicon Labs
Treasurer: Don Markuson - Silicon Labs

If you are interested in presenting at a monthly meeting, being added to the meeting notifications, or attending in an AdCom meeting, send an e-mail to Mike Bannan, Chair, at michael.bannan@ieee.org or Jay Yakura, Vice Chair, at james.yakura@ieee.org. The next committee meetings are planned for March 1st, April 5th, and May 17th. We are always working to fill the calendar with fresh reliability presentations months in advance. You may find URL links to all the meetings on <https://events.vtools.ieee.org>, - search for region 1, section Boston, CH01021. Our success can only be achieved with continued support from our members. The core team of volunteers help us keep things going, but there is ample opportunity for new members to participate in the Advisory Committee.

Meeting Highlights:

December 8, 2021: **“Process and Value Stream Mapping”**

Jim Leonard, Senior Consultant, Quality Support Group (QSG)

57 participants

Jim Leonard provided a dynamic lecture on guidelines to closely assess your current processes, and effective tools for exposing opportunities for improvement that eliminate frustration, errors, delays, and excessive costs.

Process mapping is a technique that provides a structured analysis of a process flow. It can be used to distinguish how work is being done from how it should be done. Moving beyond basic flow chart/process mapping, Value Stream Process Mapping (VSPM) can expose waste hiding in the organization’s systems and processes. It can quantify the flow of throughputs as well as waste, rework, queue time and other drains on resources. It is a technique that is easily and effectively applied in any type of process – manufacturing, laboratory, health care, retail, office, school, etc.

The webinar covered the following topics:

- Product Quality versus Process Quality
 - Shewhart’s Concept of a Process
- Process Mapping Terms and Symbols
- Examples of Various Process Maps – Manufacturing and Non-Manufacturing
- Procedure for Generating the Initial Process Map
- Value Stream Process Mapping
 - The concept of “white space”
 - Defining meaningful and actionable data
 - Calculating the Value Effectiveness Ratio
- Moving from the Current State to the Future State
- Drafting a Value-Stream Process Map

February 9, 2022: **“Designing for Reliability with ReliaSoft Software”**
Semyon Mikheevskiy, Application Engineer, Hottinger, Bruel, & Kjaer
57 participants

Design for Reliability (DfR) is a discipline that refers to the process of designing reliability into products as part of the development process. Semyon Mikheevskiy showed how stages of the DfR process are implemented in ReliaSoft software. He discussed how the pieces of information collected during reliability engineering activities could be combined and used to improve the decision-making process. He demonstrated what the DfR framework looks like, and where the methods and tools fit in that standard work process. The case study included applications of FMEA, Telcordia, accelerated life testing, and system reliability.

The webinar covered the following topics:

- Define Reliability Requirements
- Identify Reliability Risks
- Assess & Analyze Phase
- Verify & Quantify
- Validate & Assure
- Sustain and Control

Upcoming Activities

Advisory Committee Meetings:

AdCom meetings are planned for March 1st, April 5th, and May 17th. Contact Mike or Jay for a link to join the meetings.

March 9, 2022: **"Correction to Traditional Formulae for Reliability Estimation and Quality Sampling Requirements,"**

Dr. Charles H. Recchia, Senior Member IEEE, Past Chair Boston Chapter IEEE RS

This talk will present a correction to a widely used set of equations used to perform reliability estimation and quality sampling sample size determination. The new formulae are very easy to implement and result in considerable efficiency improvements for a given confidence level. As presented at the 2021 IEEE International Integrated Reliability Workshop conference, the former chi-squared based approach is supplanted by a gamma distribution using the Kerman neutral prior. We explain the origin of this correction and why the original formulae were faulty. DOI: 10.1109/IIRW53245.2021.9635625

Advisory Committee (AdCom) Members 2021

Chair: Mike Bannan – BAE Systems - michael.bannan@ieee.org
Vice Chair: Jay Yakura – Retired james.yakura@ieee.org
Secretary: Don Markuson - Silicon Labs d.markuson@ieee.org
Treasurer: Don Markuson - Silicon Labs d.markuson@ieee.org
Website: James A. Yakura – Student - james.a.yakura@ieee.org
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Publicity: Vacant

Members at Large:

Dan Weidman - MIT Lincoln Laboratory danweidman@ieee.org
Gene Bridgers - Results MA gbridgers@resultsma.com
Giora Kuller - Retired g.k.kuller@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.

Email or talk to any of us at the next monthly presentation or attend one of our Advisory Committee meetings to see how the team works together. Your contributions may be as much or as little as you would like. We have a good team of volunteers that help us keep things going, so if you would like to join us, there is ample opportunity to choose how you would like to contribute.

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 Mike Bannan michael.bannan@ieee.org to be added to our notification list.

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) with any comments, suggestions or if interested in contributing to our next issue.

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