

Reliability Engineering in the Next Generation

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Abstract

Over the past 20 years, there have been dramatic changes in the world. These changes have been spurred by new technologies, global competitiveness and market demands, and have required a new interpretation of the discipline of reliability and the role of the reliability engineer in the development of products and systems.

This presentation introduces the changes that have occurred and how reliability engineering must change to keep pace with the changes and add value to the product development process. Advances in design-for-reliability (DfR), reliability capability maturity, virtual qualification and prognostics are some of the reliability topics that will be discussed.

Bio

Professor Michael Pecht has a BS in Physics, an MS in Electrical Engineering and an MS and PhD in Engineering Mechanics from the University of Wisconsin. He is a Professional Engineer, an IEEE Fellow and an ASME Fellow. He served as chief editor of the IEEE Transactions on Reliability for eight years and on the advisory board of IEEE Spectrum. He is now chief editor for Microelectronics Reliability. He is the founder of CALCE Center at the University of Maryland, College Park, where he is also a Chair Professor in Mechanical Engineering and also a Professor in Applied Mathematics. He has written more than twenty books and over 400 technical articles on reliability issues and methods. He was awarded the highest reliability honor, the IEEE Reliability Society's Lifetime Achievement Award in 2008. He has previously received the European Micro and Nano-Reliability Award for outstanding contributions to reliability research, 3M Research Award for electronics packaging, the IEEE Undergraduate Teaching Award, and the IMAPS William D. Ashman Memorial Achievement Award for his contributions in reliability analysis.