



**STEVENS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING**

**Wednesday, April 1, 2009
Carnegie Room 315, Time 1:30pm**

***Reliability/Quality Engineering and Environmental
Stress Testing Of Electronics Products***

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There is a growing recognition within major electronics companies that there has to be a marked reduction in field failures to be recognized by customers as a high quality supplier. Every major company therefore has a program for improved product quality & reliability. Interestingly, Reliability Engineering has its foundations in Mechanical Engineering problems, and like other engineering disciplines, is a well-established empirical, data driven science. Reliability Engineering in electronics borrows most of the concepts from reliability of mechanical systems. There are many parallels between the two disciplines and differences as well. In general, Reliability problems are mainly due to inadequate vendor product quality (component), inadequate design margins (design), and insufficient process control (manufacturing). Reliability of electronics is a multi-disciplinary field requiring knowledge and understanding of mechanical, materials and electrical engineering, chemistry, testing, and data analysis and statistics. This seminar will outline the concepts, practical applications, and implementation of reliability/quality engineering and testing in electronic product development and manufacturing. It will provide a very systematic approach to reliability followed by appropriate testing to ensure high quality products. The emphasis is on innovative new developments in the field of accelerated stress testing based on experience and case studies with a wide range of electronics products.

Dr. S. Rajaram is a Senior Manager at Alcatel-Lucent in Whippany, New Jersey. He joined Bell Labs in 1981, and has worked extensively on thermal design, reliability engineering and testing of a wide range of electronics products in the data and telecom industry. He is one of the primary architects of the Environmental Stress testing (EST) at Lucent Technologies. He has trained engineers at Bell Labs and given short courses in the U.S, Europe, Taiwan, Singapore, India and China. He spent one year as a United Nations Expert to train electronics engineers in India. He received his Ph.D. in Engineering Science from the State University of New York at Buffalo. With a major in Mechanical Engineering, and a minor in Electromagnetics, he is knowledgeable in mechanical, thermal design, manufacturing, reliability/quality engineering and electrical aspects of electronics packaging and network engineering.

For more information, please contact Prof. MG Prasad at mprasad@stevens.edu or 201-216-5571