



IEEE

Ottawa Section



Seminar by IEEE Ottawa ComSoc/BTS Ottawa Chapter, RS Ottawa Chapter, IEEE LEOS Ottawa Chapter, IEEE AESS Ottawa Chapter, IEEE P/MTT Ottawa Chapter, IEEE CS Ottawa Chapter, and Algonquin College Student Branch

The IEEE Ottawa Section is inviting all interested IEEE members and nonmembers to a seminar on

Microelectronics Reliability: It's evolution from Military to Commercial Requirements

by

Dr. Ray Haythornthwaite, Ottawa, Ontario, Canada

DATE: Thursday, May 21, 2009.

TIME: Refreshments, Registration and Networking: 06:30 p.m.; Seminar: 07:30 p.m. – 08:00 p.m.

PLACE: Algonquin College, [1385 Woodroffe Ave.](#), [Advanced Technology Building \(T\)](#), Room T230.

PARKING: No fee at the parking lots 8 and 9 at the time of seminar. Please respect restricted areas.

Abstract

The talk will be in two parts. The presentation will be maths free with abundant illustrations of the internal structure of modern microcircuits. The first part covers practical reliability in a rapidly changing world where device sizes are approaching physical limits, yet are more complex and cheaper. It shows why the traditional reliability approach is no longer valid and how the need for survival has guided the industry to consider reliability seriously. The second part describes how physics and chemistry based reliability analysis is used to determine when traditional fabrication methods must be abandoned, and as a vital tool for selecting new and reliable technologies in both wafer fabrication and packaging that are appropriate to the commercial high volume market.

Bio

Dr. Ray Haythornthwaite started in R and D the early days of micro-electronics manufacture before turning to reliability. At the Communications research centre, he had important reliability roles in the Canadian space program and was responsible for the reliability of the first gallium arsenide amplifier in space. He led teams performing destructive physical analysis and failure analysis on the Canadarm and space station programs while at QRL Analysis. In the last 15 years had has been senior scientist and engineer at Canada's world renowned reverse engineering companies, Chipworks and Semiconductor Insights where he had ample opportunity to see microelectronics technology evolving. At Chipworks he led a team that recovered data from a memory chip in the Swissair disaster. He is now retired and busy consulting.

Admission: Free. Registration required.

Please register by e-mail contacting: [Wahab Almuhtadi](#), [Raed Abdullah](#), [Patrick Couture](#)