

Message from the Editor

Commercial electronic components are increasingly being used in safety critical high reliability applications with significantly longer life time than consumer electronics. Examples include automotive electronics such as lane departure warning systems, collision avoidance systems, antilock braking systems, airbag actuation systems and cruise control. There is need for methods for identification of imminent failure in electronics with sufficient advanced warning to allow for intervention for repair or replacement of the affected system. While diagnostics has been used in electronics for a number of years, the development of solutions for prognostic health management have yet to be developed and implemented although a few implementations do exist on some applications. Examples of diagnostics in consumer products include the on-board diagnostic system or the OBD which provides an indication of system fault with a dashboard indicator, and the built-in self-test or BIST which tests the systems for faults during power-up of the system. Diagnostic methods are limited to the detection of faults that have already occurred in the electronic system and do not provide in an indication of imminent failure in the system. In this issue, several papers are presented examining various aspects of prognostic health management for electronic systems have been presented.



Pradeep Lall, Walter Professor and Director, Auburn University
Editor, IEEE Reliability Digest Special Issue on PHM