



Invited Plenary Speech

Problem Identification and pre-emption: Systematic Methods to identify unaware failures

Speaker Name,

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Speaker Biography:

Daniel has 9 years of industrial experience primarily in the electronic industries with Hewlett-Packard, Motorola, and Matsushita prior to joining National Tsing Hua University as a professor where he served for 23 years. He is Professor Emeritus of National Tsing Hua University and Professor and Chair at Foshan University. He has expert knowledge in systematic Innovation including TRIZ. He has developed more than 20 new A⁺TRIZ tools. Daniel has taught/facilitated more than 100 sessions of industrial training/consulting courses in more than 70 companies. He is a certified TRIZ Expert in Training and problem-solving consultation. Daniel Conducted 27 national/cross-strait conferences and 12 international conferences in the areas related to systematic innovation/Manufacturing Engineering. He has been invited to deliver keynote/plenary speeches 15 times in international conferences and 21 times in national conferences. Daniel published 46 peer reviewed journal papers, 185 conference papers, authored 14 books, and translated 4 books. Daniel holds 10 patents from Taiwan, China, and USA.

Abstract/Outline

Failure mode and effect analysis has been a very good tool to prevent potential failures for more reliable products. However, all conceivable failure modes often come from failures that have happened before. It is very difficult to identify potential failure modes that have never happen before. Yet, these failures often are the most difficult problems to identify and deal with as they have never happened before. This talk will introduce systematic methods to identify potential failure modes which have never happened before and people are unaware of. The methods are based on function-component analyses, work breakdown structure, process scenario analysis and TRIZ subversion analysis. With these and TRIZ problem-solving approaches, the product/process designers can design-in some mechanism to design out future unaware failure modes as a problem identification and preemption approach.