

Physics Colloquium

Michigan Technological University

Thursday, October 12, 2006, 4:00 to 5:00 pm
Room 139, Fisher Hall

Failure Analysis turned upside down: Or how Physics Saved the Day

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Abstract

With the move to flip chip packaging (IC mounted upside down) of integrated circuits and the addition of multiple levels of metallization (interconnect), most conventional "front side" failure analysis techniques became obsolete. Through the cooperation of multi-functional teams which included many physicist playing key roles, so-called "Backside" failure analysis techniques were developed, turning the problem "right side up". The development of backside failure analysis techniques for semiconductor microelectronics will be described along with the role that physicist played in the development

Biography

Dr. Bruce is a Senior Member of Technical Staff at Advanced Micro Devices, Inc. His primary interest is nondestructive physical and failure analysis of integrated circuits. Mike is an associate editor of Electronic Device Failure Analysis journal. He has published more than 30 papers on such topics as laser spectroscopy, discharge physics and electron scattering. Dr. Bruce has more than 50 patents.