

ECE DISTINGUISHED SEMINAR SERIES



In this talk we will trace the history of semiconductor test, from its early days of simple spec compliance to test automation, and now to autonomous test.

DATE & TIME

Oct. 10, 2025 | 3:30-5pm

LOCATION

Chickasaw Nation STEM Auditorium
140 Engineering South

AI IN TEST

Dr. Ken Butler | WattsButler LLC.

ABSTRACT

With the proliferation of AI technologies in all aspects of our lives, and the move from monolithic to heterogeneous integration of semiconductor devices that is being driven by AI and other technologies, semiconductor test is witnessing challenges unlike any we've seen in its history. Today's most advanced IC products contain billions of components, and they must be tested to ensure they are defect-free and that they comply with the specifications and lifetime requirements of the end equipment into which they will be integrated. In this talk, we will trace the history of semiconductor test, from its early days of simple spec compliance, to test automation, and now to autonomous test. We will look at how AI methods are being incorporated into test processes to speed up development times, increase the effectiveness of each test insertion, and reduce costs across the semiconductor product life cycle.

BIO

Ken Butler is a semiconductor industry consultant with WattsButler LLC. Prior to that, he was involved in the startup of Advantest Cloud Solutions (ACS) within Advantest America Inc., offering products for real-time semiconductor test data collection and analysis, and for 36 years with Texas Instruments working in semiconductor design for testability (DFT) and test generation, reliability, analog product and test engineering, and data analytics. Ken has a BS from Oklahoma State University and an MS and PhD from the University of Texas at Austin, all in electrical engineering. He is a Fellow of the IEEE, a Golden Core member of the IEEE Computer Society, and a Senior Member of the ACM. Ken also co-leads the IEEE Electronic Packaging Society (EPS) Heterogeneous Integration Roadmap chapter on test technology.

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