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CONFERENCE & EXHIBITION

Keynote speaker:

Name: **Kemal Aygün**

Job position: **Intel Fellow**

Company: **Intel Corporation**

Presentation: High Speed Signalling Challenges and Solutions for Electronic Packaging

Abstract:

With the emergence of new applications such as artificial intelligence, corresponding electronic systems need to provide increasingly improved performance. One area where the performance demand has been scaling very aggressively is that for connecting different components in an electronic system using high speed signalling. To address this demand, the pace of innovation in electronic packaging has also increased greatly in recent years, bringing with it a new set of challenges for electrical design, analysis, and validation. This presentation will review some of the recent developments in electronic packaging from scaling of traditional technologies to new advanced packaging technologies. It will also summarize some of the key challenges and solutions for the corresponding electrical methodologies and metrologies, that can be used for design, analysis, and validation of such packages. Some specific topics that will be covered include impact of use conditions on dielectric and conductor models, uncertainty quantification for package interconnect measurement-to-modelling correlation, and advances on high-frequency characterization of sockets and ball grid array package connections.

Bio:

Kemal Aygün received the Ph.D. degree in electrical and computer engineering from the University of Illinois at Urbana-Champaign, Urbana, IL, USA, in 2002. In 2003, he joined the Intel Corporation, Chandler, AZ, USA, where he is currently an Intel Fellow and manages the High Speed I/O (HSIO) team in the Electrical Core Competency group. He has co-authored five book chapters, more than 90 journal and conference publications, and holds 84 U.S. patents. His research interests include novel technologies along with electrical modelling and characterization techniques for microelectronic packaging. Dr. Aygün was a recipient of the Semiconductor Research Corporation (SRC) Global Research Collaboration (GRC) Mahboob Khan Outstanding Mentor Award in 2008 and 2015 for his contributions in mentoring SRC GRC academic research projects. He was the General Chair of the 2020 IEEE Electrical Performance of Electronic Packaging and Systems Conference. He is an IEEE Fellow and has been acting as a Distinguished Lecturer for the IEEE Electronics Packaging Society (EPS); a co-chair of the EPS Technical Committee on Electrical Design, Modelling, and Simulation; and an associate editor for the IEEE Transactions on Components Packaging, and Manufacturing Technology.