Brent Lunceford Bio

Brent Lunceford started his professional career at the Microelectronics and Computer Technology Corporation (MCC-Austin, TX) in 1995 where he raised funding for the development of ultra-miniature microelectronics for emerging applications, formed and managed programs that explored applications for a Texas State University patented fluoropolymer leading to the commercialization of new fluoropolymer products at 3M, developed innovative RF and Optical MEMS, and developed laser direct write imaging systems for maskless photolithography. Under strategic innovation initiatives he innovated CuNiAu-polyimide interconnect processing into MEMS fabrication processes in a joint venture with IBM. From this research, metal RF MEMS were developed resulting in the spinout of Austin's first MEMS Company, Teravicta Technologies. While at MCC, he initiated and managed R&D projects with institutions including IBM, HP, 3M, Hughes, NCR, Raytheon, Lockheed Martin, Motorola, Rockwell Collins, Kodak, Stanford University, National Security Agency, NASA Langley, and the U.S. Army Research Labs. His collaborative work with the Army Research Labs led to MEMS-based telemetry systems of military applications that expanded into smart oil and gas drilling. Mr. Lunceford joined Silicon Light Machines (Sunnyvale, CA) from 2000-2007 where he formed a MEMS engineering team and managed new product development. Mr. Lunceford joined 3M Electronics and Energy Global Innovation Center in 2010 to lead the development of next generation fiber optic systems for global markets and roll-to-roll MEMS sensor manufacturing.

Lunceford has authored 25+ publications and symposia presentations, has 5 patents issued and multiple patents pending. He is a member of the American Chemical Society, the American Chemical Society-Division of Polymer Chemistry, and is Executive Committee Member and Officer of the IEEE San Francisco-Bay Area MEMS & Sensors Chapter where he chaired the 1st Annual Internet of Things Symposium (MEPTEC) and the recent IEEE-SEMI MEMS Standards Workshop comprised of expert speakers from the MEMS Industry Group, Global Semiconductor Alliance, National Institute of Standards and Technology, Semiconductor Equipment and Materials International, and Institute of Electrical and Electronics Engineers. Mr. Lunceford received his B.S. Chemistry and M.S. Chemistry degrees from Texas State University in 1995 and completed the Executive MBA program at the University of Texas at Austin-McCombs School of Business in 2014 with focus on entrepreneurship, strategic innovation, and new venture creation.

Introduction to MEMS Technology

The commercialization of microelectromechanical systems (MEMS) led to an explosion of highly reliable sensors and advanced features in smart phones, wearable electronics, medical devices, and automotive safety systems. A background on MEMS technology, use examples, current status and the future of MEMS technology will be presented.