
TCSUH Special Seminar

Several Developments in MEMS/NEMS/LED/IC Packaging and Integration



Prof. Sheng Liu

School of Power and Mechanical Engineering
Wuhan University
Wuhan, Hubei
China

Wednesday, November 18, 2015
HSC 102: 12:30PM – 1:45PM

ABSTRACT:

50 years ago, Moore predicted that the number of transistors would be doubled per 18 months, a famous Moore law. More than Moore proposed, which formed the core part of System in Packaging, which include MEMS, LED, etc. With the emerging of Internet of Things (IoT), wearable electronics, solid state lighting, novel nano devices, it seems that packaging integration will be a key technology for enabling new ideas into products as well as industries. In my talk, I will present some sensors development in our group, such as MEMS based pressure sensors for automotive industry, screen printed ceramics based sensors for harsh environment such as ESP, ultra-sensitive based sound sensing for wearable electronics, 3D nerve probing, epitaxial growth equipment (ALD + MOCVD), self-heating in LED packaging in phosphor/silicone coating, and nonlinear mechanical properties of AlN film grown on silicon.

BIO:

Sheng Liu received his B.S. and M.S. degrees in flight vehicle design from Nanjing University of Aeronautics and Astronautics, Nanjing, China, in 1983 and 1986, respectively, and his Ph.D. degree in mechanical engineering from Stanford University, Stanford, CA, in 1992. He was an Assistant Professor with the School of Mechanical and Aerospace Engineering, Florida Institute of Technology, Melbourne, from 1992 to 1995. In 1995, he became an Assistant Professor with the School of Mechanical Engineering and the Institute for Manufacturing Research (joint appointment), Wayne State University, Detroit, MI, where he became an Associate Professor in 1998 with tenure. In 2001, he came back to Huazhong University of Science and Technology, Wuhan, China, where he became a Full Professor with the School of Mechanical Science and Engineering, and the founding Director of the Institute of Microsystems. He was also the founding Director with the Division of Micro-Opto-ElectronicMechanical Systems, Wuhan National Laboratory for Optoelectronics, Wuhan. He was also the executive director of Birdnest Program, initiated by Professor Gang Chen at MIT, Professor Chih-Ming Ho at UCLA, Prof. Zhigang Suo at Harvard, Professor Zhifeng Ren at University of Houston, with the aim of recruiting and mentoring young faculty in a tenure track system similar to USA. He is currently the Dean of School of Power and Mechanical Engineering, Wuhan University, Wuhan. His current research interests include light-emitting diodes, microelectromechanical systems, integrated circuit packaging, mechanics, and power electronics. Prof. Liu was evaluated to be ASME Fellow in 2009 and IEEE Fellow in 2013. He has won some prestigious awards such as Presidential Faculty Fellow Award in 1995, ASME Young Engineer Award in 2006, IEEE CPMT Excellent Technical Achievement Award in 2009, to name a few. He has authored more than 500 technical articles in English, two books by Wiley and filed or granted about 300 patents in China and abroad.

Persons with disabilities who require special accommodations in attending this lecture should call (713) 743-8213.
