

## 2008 Outstanding Young Engineer Award

The Outstanding Young Engineer Award recognizes outstanding young MTT-S members who are less than 39 years old at the time of nomination and have distinguished themselves through a sequence of achievements which may be in the MTT-S technical field of interest, exemplary service to the MTT-S, or a combination of both.

Multiple awards may be made at the discretion of the Awards Committee. For 2008, there are four recipients.

### **Dr. Michael P. DeLisio**



*For contributions to the development and commercialization of microwave and mm-wave spatial power combining techniques as well as service to the MTT-S.*

Michael P. DeLisio was born in Southfield, Michigan, in 1968. He received the B.S.E. degree in electrical engineering from the University of Michigan at Ann Arbor in 1990 and the M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology in Pasadena in 1991 and 1996, respectively. From 1996–2001, he held a faculty position in electrical engineering at the University of Hawaii at Manoa, earning tenure and promotion to associate professor in 2000. In 2001, he was a visiting associate at Caltech, and he cofounded Wavestream Corp. in San Dimas, California, the first company to successfully commercialize microwave and mm-wave products using spatial power combining; Dr. DeLisio is chief technical officer.

As a researcher, an educator, and an entrepreneur, Dr. DeLisio has developed techniques for spatial power combining, which is an approach to producing very high- output-power solid-state devices by combining the outputs of many individual devices in free space, thereby eliminating

the losses in more traditional waveguide or microstrip techniques. Using this innovative technique, active devices combining the outputs of hundreds of individual elements can be made, allowing the creation of solid state microwave and mm-wave amplifiers with unrivaled form factors, efficiencies, and output powers.

Dr. DeLisio is a member of Tau Beta Pi and Eta Kappa Nu. He is active in the IEEE MTT-S, serving as the secretary of the 1999 MTT-S AdCom and as an elected MTT-S AdCom member for two terms. He has served on the technical and steering committees of several IEEE conferences.

**Dr. Katherine Juliet Herrick**



*For leadership and technical contributions in the development of compact high-performance active and passive components for mm-wave arrays.*

Katherine J. Herrick earned her B.S.E., M.S.E., and Ph.D. degrees in electrical engineering from the University of Michigan, Ann Arbor, in 1994, 1996, and 2000, respectively. Her dissertation work focused on integrated three dimensional (3-D) microwave circuits up to W-band utilizing silicon micromachining. Upon completing her Ph.D., Dr. Herrick conducted research as a postdoctoral research fellow in the areas of packaged MEMS and multilayer silicon circuits. She joined Raytheon's Advanced Technology Department at Raytheon RF Components in Andover, Massachusetts, in January 2001. There she focused on advanced solid-state research and program development in GaAs-based metamorphic high electron mobility transistor (MHEMT) technology, high-performance passive interconnects, 3-D packaging, microwave circuit design, and integrated arrays through 110 GHz. Dr. Herrick joined Raytheon's Integrated Defense Systems Advanced Technology Directorate in January 2007 with a focus on microelectronics contract R&D capture. She led the capture of, and is currently Raytheon's principal investigator for, the DARPA COSMOS (Compound Semiconductor Materials on Silicon) program. Raytheon's COSMOS approach is to directly grow a compound semiconductor on a uniquely engineered silicon substrate. The goal is to integrate high-performance compound semiconductors with low-cost commercial complementary metaloxide semiconductor (CMOS) silicon wafers to achieve superior cost-benefit performance compared with either technology on its own.

Dr. Herrick received the Raytheon Company Integrated Defense Systems President's Award in 2007 and the Outstanding Technical Contribution Award in 2003. Dr. Herrick has been a member of the IEEE and the MTT-S for over 15 years. She won the IMS Best Student Paper awards in both 2000 (third) and 1997 (first). She has published over 35 technical papers and holds several patents in the areas of antennas, RF MEMS packaging, and microwave circuits.

**Dr. Anh-Vu Pham**



*For contributions to the development of microwave and mm-wave organic packages, components and modules.*

Anh-Vu Pham received the B.E.E. (with highest honors), M.S., and Ph.D. degrees in electrical engineering from the Georgia Institute of Technology, Atlanta, in 1995, 1997, and 1999, respectively. From 1999–2002, he held a faculty position at Clemson University. He joined the University of California at Davis in 2002 and is currently an associate professor, and he leads the Microwave Microsystems Lab, which has been supported by DARPA, NSF, AFRL, and numerous companies for research on RF and mm-wave frequency organic packages and multichip modules, RF CMOS circuits, and wireless sensors. Recently, his group has focused on developing organic packages and modules that can provide hermeticity and reliability as ceramic counterparts. He has published over 90 peer-reviewed papers, several book chapters, and one book in print. Dr. Pham has served as the chair of IEEE MTT-S Technical Coordinate Committee on Microwave and Millimeter Packaging (2003–2006) and is currently the vice chair of the IEEE IMS Technical Committee (TC) on Power Amplifiers and Integrated Devices. He received the National Science Foundation (NSF) CAREER Award in 2001. He is a Senior Member of the IEEE. In 1997, Dr. Pham cofounded RF Solutions, a fabless semiconductor company providing RFICs for WiFi applications. In April 2003, Anadigics Inc. acquired RF Solutions. In 2008, he cofounded Planarmag, Inc., a company specializing in electromagnetic components for data communications applications (Ethernet, DSL, etc.) and serves as the CTO.

**Dr. Andreas C. Stelzer**



*For contributions made in the field of microwave sensor and local positioning systems and their signal processing.*

Andreas C. Stelzer was born in Haslach an der Mühl, Austria, in 1968. He received the Diploma Engineer degree in electrical engineering from the Technical University of Vienna, Austria, in 1994. In 2000, he received the Dr.techn. degree (Ph.D.) in mechatronics from the Johannes Kepler University with special honors *Promotio sub auspiciis Praesidentis rei publicae* under the auspices of the Austrian president, which is granted only if the best possible grades have been achieved throughout the entire education from high school to the final doctoral exam. Since 2000, he has been with the Institute for Communications and Information Engineering of the Johannes Kepler University in Linz. After finishing his postdoctoral qualification with the habilitation in 2003, he became an associate professor at Johannes Kepler University.

Dr. Stelzer serves as a key researcher within the Linz Center of Mechatronics (LCM) and is responsible for numerous industrial projects. Also, in the newly established Austrian Center of Competence in Mechatronics (ACCM), he is in charge of several research projects. In 2007, Dr. Stelzer was granted a Christian Doppler laboratory from the Austrian government. This research laboratory for Integrated Radar Sensors, located at the Johannes Kepler University and headed by Dr. Stelzer, is dedicated to fundamental research on highly integrated microwave sensor systems using SiGe technology. Dr. Stelzer's research focuses on microwave sensor systems for industrial applications, RF and microwave subsystems, SAW sensor systems and their applications, and baseband signal processing for sensor signal evaluation. The work on leading local position measurement systems combines a broad know-how reaching from the RF front-end via baseband hardware and processing to tracking and application software.

Dr. Stelzer has authored or coauthored more than 170 journal and conference papers. He received several awards, including an honoring for excellent achievements at the university from the Austrian minister of science, the EEEfCOM Innovation Award, and the EuMA Radar prize at the European Radar Conference 2003. Andreas Stelzer is a member of the Austrian Electrotechnical Association (ÖVE) and the IEEE [MTT, Instrumentation and Measurement (IM)],

and Circuits and Systems (CAS) Societies]. He works as a reviewer for international journals and conferences and served as an associate editor for IEEE Microwave and Wireless Components Letters.