

Education Committee Report:

The Education Committee was very pleased that the 2004 Symposium included two major educational programs - a course on transducer design and three, two-hour sessions related to transducer modeling, test and measurement, and nonlinear behavior in loudspeakers. Steve Mowry presented a course entitled Fundamentals of Electrodynamical Transducer Design. This course focused on the topics of electricity and magnetism, transducer models, hard and soft-part component design, adhesive selection, electromechanical and acoustic measurements. Simplified methods of nonlinear large displacement/deformation 2D Finite Element Analysis for the simulation of the large signal parameters, $B(x)$, $L_e(x, f)$, and $C_{ms}(x)$ along with nonlinear buckling, linear thermal FEA, and linear lumped boundary condition vibration mode FEA were also presented.

Loudsoft, Listen, Inc., and Klippel each presented a two-hour tutorial as part of ALMA's first-ever Transducer Test and Simulation Tutorials. Peter Larsen from Loudsoft (www.loudsoft.com) presented the use of FINEMotor, FINECone, FINEBox for loudspeaker development and modeling. Steve Temme and Dan Foley from Listen, Inc. (www.listeninc.com) lectured on microphone selection, acoustic and reverberant sound fields, data presentation, measurement techniques, and various methods used to determine Best Match to Average (BMA). Dr. Wolfgang Klippel (www.klippel.de) discussed nonlinear distortion and Xmax test and measurement methodologies.

The University of Hartford continues to do research on loudspeaker distortion. Two students are continuing the work started last year on characterizing the harmonic signatures of specific loudspeaker faults and more projects are planned for the future. If any company or individual would like the University of Hartford to conduct research on transducers and/or finished systems, please contact Dan Foley from the ALMA Education Committee at dfoley@listeninc.com.