

FLOYD E. TOOLE HONOURED WITH AES GOLD MEDAL AWARD

by Andrew Lauzon

Congratulations goes out to Dr. Floyd E. Toole, this year's recipient of the Audio Engineering Society's (AES) prestigious Gold Medal Award, given in recognition of outstanding achievements, sustained over a period of years in the field of audio engineering. He is being honoured by the society for "outstanding contributions to theory, practice, and international standards in the area of subjective and objective evaluation of loudspeakers in rooms."

Dr. Toole holds a B.Sc. in electrical engineering from the University of New Brunswick and a PhD from the Imperial College of Science and Technology, University of London. From 1965-1991 he worked at the National Research Council of Canada, (NRC) reaching the level of Senior Research Officer in the Acoustics and Signal Processing group. There he conducted influential research that ultimately contributed to the founding of the loudspeaker industry in Canada. After leaving the NCR, he joined Harman International as Vice-President, Acoustical Engineering where he worked with all Harman-owned companies such as JBL, Infinity, Harman/Kardon, Mark Levinson, Revel, Lexicon, AKG, DOD, Studer and Soundcraft, until his retirement in 2007. One of the advantages of working for a corporation as large as Harman is that "they can afford to do real research", he explains. "I was allowed to set up and run a research group that was not obligated to product development or marketing."

While still at the NRC conducting research on the subjective perception of sound localization, Dr. Toole uncovered a surprising lack of standardization in regards to loudspeaker systems. To quote his oft-used

illustration, "there is more useful and reliable information on the side of a tire than there is in a loudspeaker specification sheet." With the opportunities for research facilitated by his position at Harman, he founded their multichannel listening lab where he and his team successfully established methods for subjective and objective evaluations used to clarify the relationships between technical measurements of loudspeakers and listeners' perceptions. Working with Dr. Sean E. Olive (another ex NRC researcher) processes were created that confidently predict consumer preferences from comprehensive anechoic measurements, removing much of the uncertainty that has plagued the industry.

Dr. Toole is still a liaison for the research team at Harman, and is actively involved with the Society of Motion Picture and Television Engineers. He says of his current work, "We are attempting to elevate the quality and consistency of sound in cinemas and sound tracks by developing a more effective calibration process for display and production facilities. This is much needed; audio is a multi-billion dollar industry with no effective rules, and the consequence is that consumers rarely get to hear the art as it was created."

Dr. Toole's credo is "using science in the service of art" and he is a believer in the idea that product development via scientific methodology, paired with consumer awareness translates not only into better products, but a more satisfied end-user. "In fact" he says, "just as the NRC connection became a marketing theme for Canadian loudspeaker manufacturers, Harman uses our continuing research as a means of differentiating us from our competitors."

Science works, it serves the audio arts, and, used thoughtfully, it ‘sells’.”

The current Gold Medal award is added to previous AES recognition in the form of two Publications Awards, the Board of Governors Award and the Silver Medal (1996). He is a Fellow and Past President of the AES, a Fellow of the Acoustical Society of America and a Fellow of CEDIA (Custom Design and Installation Association). He has been awarded Lifetime Achievement awards by CEDIA and ALMA (Association of Loudspeaker Manufacturing & Acoustics International).

Dr. Toole is also currently active as an educator and author. His book, *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* was published by Focal Press in 2008, and he has described it as the culmination of his life’s work. That said, life goes on, and he is contemplating a new book.



Floyd Toole, 2013