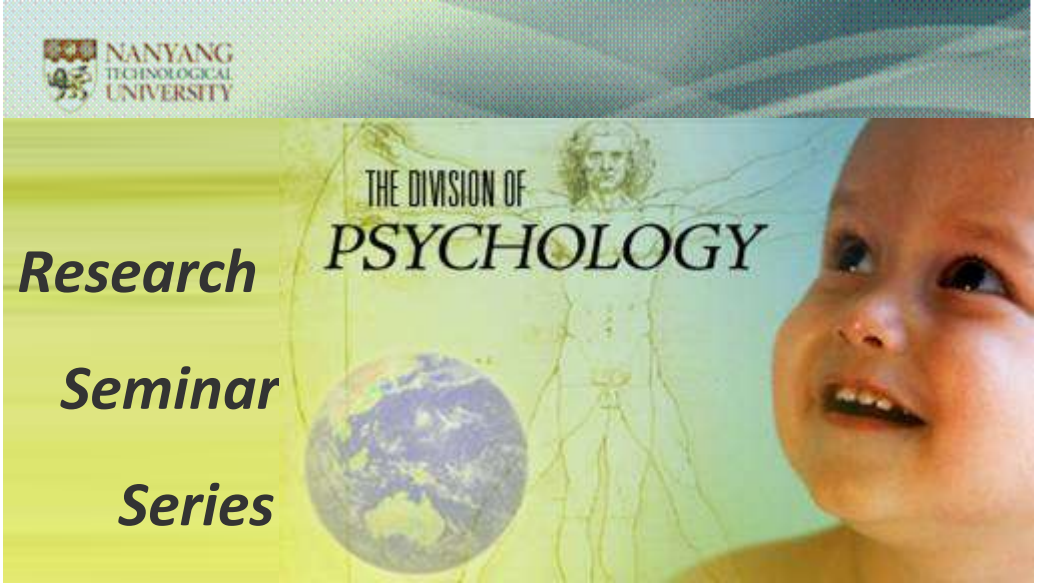

Echolocation of Visually Handicapped People

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HSS Seminar Room 6 (S3.2-B3-06)

Abstract

Visually handicapped people may use sounds to detect objects in their environment. When they detect echoes and reflected sounds, this is often called echolocation. The talk will present a number of experiments dealing with various aspects of this ability of blind people. The experimental sounds were obtained from binaural recordings with an artificial head in an anechoic and in an ordinary room, using different kinds of sounds. Psychophysical methods were used, and both blind and sighted persons participated in the experiments. The blind often showed a better performance, with some having a superior performance. The perception of pitch seems to be of most importance. The theoretical explanations are given in terms of repetition pitch, loudness and the autocorrelation function.

Biography

Dr. Schenkman received a BA degree from Hebrew University, Israel, and a PhD degree in psychology from Uppsala University, Sweden, in 1985. From 1985 to 1997 he worked as a human factors specialist at Ericsson, Nokia, and Fujitsu/ICL, and as a researcher at the Royal Institute of Technology in Stockholm on computer ergonomics. From 1997 to 1998 he worked with telecommunication research at Telia, Stockholm. He joined the Institute of Optical Research in Stockholm, working on image quality issues. He is an Associate professor in Human-Computer Interaction at the Royal Institute of Technology and in Psychology at Stockholm University. His present research interests include: echolocation in blind people, image quality, human factors and interior car signals. He is currently employed at Blekinge Institute of Technology and at Stockholm University, both in Sweden.

~~~~~ All Are Welcome ~~~~~