

Engineer Helps Improve Lives of Hearing-Impaired

Work on Cochlear Implants Among Research Recognized by Acoustical Society

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Noisy restaurants are one of the banes of people who have received cochlear implants.

Although the high-tech devices restore partial hearing, their microphones pick up everything going on around – which in a busy restaurant means the clanging dishes, the birthday party at the next table and the waiters reciting lists of specials. But what if you could filter out all that noise, leaving just the pristine voice of the person sitting across from you?

That’s the idea behind much of the research Dr. Philip Loizou of UT Dallas has been pursuing for more than a decade – work that recently won him election as a fellow in the Acoustical Society of America, the highest honor awarded in the field of acoustic signal processing.

“I aim to use engineering principles to help hearing impaired people better communicate in complex and challenging listening conditions,” said Loizou, a professor of electrical engineering and holder of the Cecil and Ida Green Chair. “The ability to converse in extremely noisy situations is something we often take for granted, yet it is extremely challenging for people who are hearing impaired, such as those wearing cochlear implants.”

The idea of removing external noise from an audio signal applies to lots of other technology as well, including cellphones and conventional hearing aids. Because all these devices digitize the audio they pick up, researchers should be able to digitally clean out the noise. Dr. Loizou’s research focuses specifically on developing algorithms that do that, removing or suppressing unwanted sound.

“What motivates me the most is the very idea that our research on signal-processing algorithms can potentially improve the lives of people who are hearing impaired,” he said.

Loizou holds a Ph.D. in electrical engineering from Arizona State University. He joined the Erik Jonsson School of Engineering and Computer Science at UT Dallas in 1999.



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