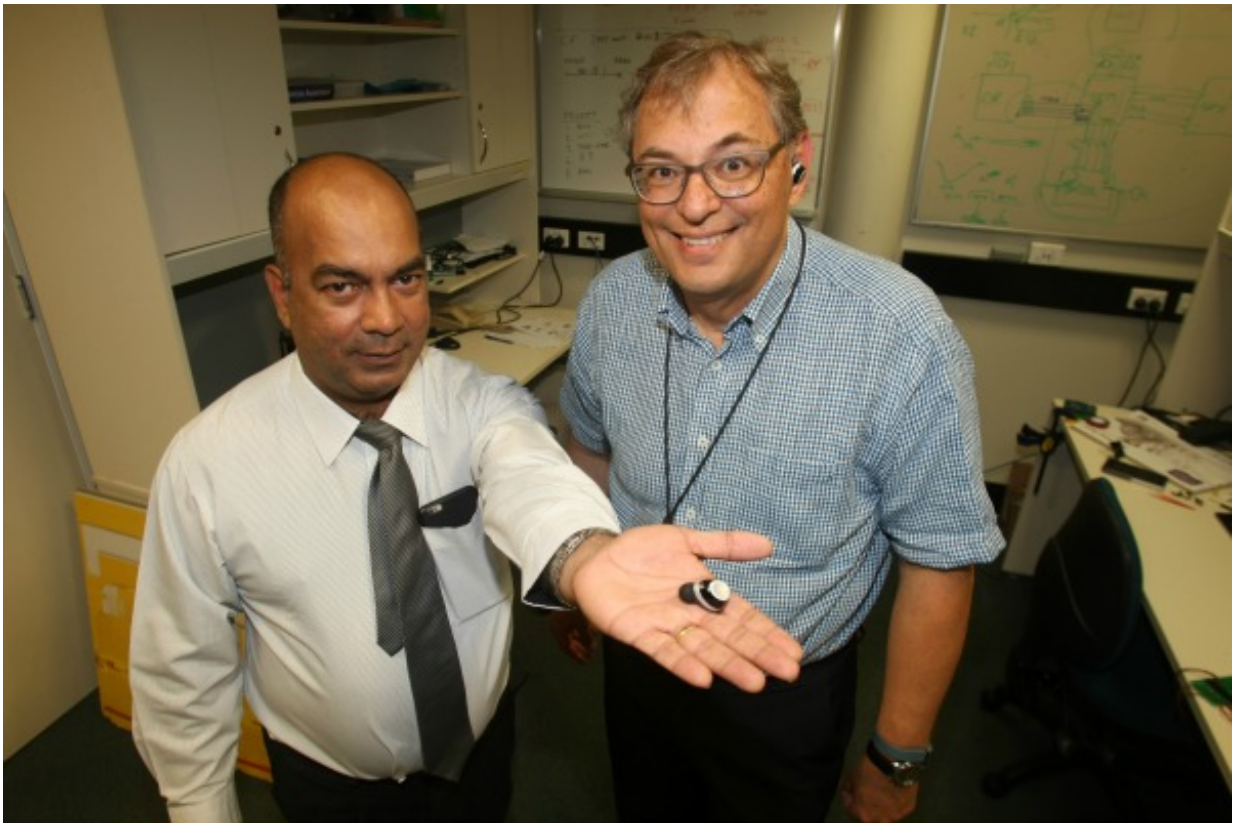


# New headphones can pick and choose outside noises

April 18 2016, by Rueben Hale, Sciencenetwork Wa

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Head of School of Electrical Engineering and Computing at Curtin, Professor Kevin Fynn and IQbuds project team leader Professor Sven Nordholm with the IQbuds. Credit: Rueben Hale

A tiny hearing device roughly the size and shape of an earbud will make

it possible to select which parts of the outside world part become part of your earphone experience.

This is possible thanks to augmented hearing IQbuds being developed by Curtin University researchers and their industry partners Nuheara.

They say users who wear the IQbuds will be able to benefit from the ability to manage sounds from their surroundings.

The Bluetooth-enabled tiny buds will play streamed content from everything from music to podcasts.

At the same time the highly advanced signal processing capabilities contained in the device will make it possible to effectively cut out surrounding noises such as road and traffic noise and even background babble in a café or at home.

But, if the wearer does something as subtle as turning their head the IQbuds can incorporate the sound coming from that direction.

The release will also mean for the first time a smartphone connectable device, with sophisticated sound augmentation capabilities, can be purchased off the shelf by consumers.

The relatively low-cost device is the first stage of a futuristic plan to develop the device for the gaming world, Curtin' Head of School of Electrical Engineering and Computing Professor Kevin Fynn says.

"The ultimate aim is develop IQbuds into a device that incorporates the technology into a virtual reality experience," Prof Fynn says.

"This means when you move your head audio of the wearers desire is streamed directly into the 3D virtual world," he says.

3D audio has not kept pace with 3D visual because developing the technology to create a multi-dimensional audio environment is a much more difficult thing to do, Prof Fynn says.

"The device will advance in the virtual direction as technology permits because to do this a computer or recorded audio stream needs to be replayed into the virtual space and tracked," he says.

Project team leader Professor Sven Nordholm says the team's work is at the forefront of research in the [audio](#) technology area, because the science is understanding how you perceive the environment around you.

"The device allows some sounds to be heard better than others," Prof Nordholm says.

He says the device will have a broad range of applications including in the hearing aid market.

"We especially expect the [device](#) will be beneficial to people with the beginnings of hearing loss," he says.

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