

A brick that cures sick, noisy buildings

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A breakthrough in sustainable office and house design – invented in Sydney

“Silenceair looks like a transparent brick but it’s a high-tech solution to one of the biggest problems of city living,” says Fresh Innovator Dr Chris Field.

“Cities are noisy. When we block the noise from our offices and homes, we usually reduce the ventilation or use noisy air conditioners to circulate fresh air – the result is sick buildings and people.”

Silenceair uses patented passive technology to allow fresh air into buildings while leaving 85% of the noise behind.

Chris developed the concept during his doctoral research at the University of Sydney. Now he plans to take it to the world – starting with an invitation to speak in Prague at the world’s largest noise control conference.

Chris’s work has already won him a place at Fresh Innovators – a national initiative to bring the work of 16 early career innovators to public attention. Following training in Sydney in May, the sixteen are talking to the media, schools and business about their ideas. One of the 16 will win a study tour to the UK courtesy of the British Council Australia.

"Urban life involves a compromise between convenience and proximity to noise," says Chris. "Part of that compromise is deciding whether to have the window open or shut. Research on sick-building syndrome highlights the issues of working in buildings that rely on closed windows and mechanical ventilation."

Silenceair is a brick that can be inserted into buildings to allow the natural passage of air while reducing the noise from the outside by up to 85%. The device is environmentally friendly because it uses no power – just a patented configuration of passive resonators. It can even be made transparent to allow natural illumination.

"With the increasing awareness of “sick building syndrome” there is mounting demand for naturally ventilated buildings,” says Chris. “But open windows also bring in outside noise, which becomes unacceptable in noisy urban areas where most people work.”

“A device that allows natural ventilation without compromising noise attenuation represents a breakthrough in sustainable office design,” says Tristram Carfrae, Principal of Arup Australasia, the engineering firm who employs Chris as a senior consultant and who have been very supportive of his work. Arup Australasia is recognised as a world leader in sustainable design and undertook the structural design of the Sydney Opera House.

In August Chris will speak at Inter-Noise 2004 in Prague, one of the largest international gatherings of experts in noise control.

“Silenceair has received a lot of interest in overseas markets, particularly in Europe and the US, so I hope to see my 10 years of research turn into a manufactured product soon.”

About the Inventors

The Silenceair concept was first developed through Dr Chris Field’s doctoral research at the University of Sydney under the supervision of Associate Professor Fergus Fricke. Associate Professor Fricke has since retired from the University’s School of Architecture. A company, Silenceair International, lead by Chris Matthews, has been established to commercialise Chris’ work.

Photos: High resolution photos and technical specifications available on request. Prototype available for viewing.

For interview or more information: Dr Chris Field M: 0417 493 832 or Associate Professor Fergus Fricke (02) 9351 4877 or Tristram Carfrae (02) 9320 9320

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