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# Broadcast turns brainwaves into airwaves

Sleep academic performs experiment on himself for arts project

A world-renowned sleep specialist has become the subject of one of his own experiments for a one-off arts project.

Jason Ellis, Professor of Sleep Science at Northumbria University and director of Northumbria Sleep Centre, has had his brainwaves turned into music for a unique radio broadcast.

The project began when Radio Arts, an independent artists' group engaged in experimental broadcasting projects, sent out an international plea for submissions under the theme 'Radio as Dreamland'.

Newcastle-based record label, Signals, reached out to the Northumbria sleep expert and asked for help to get biomedical data from sleeping subjects. That data would, in turn, be interpreted by experimental choral music group, Noizechoir, and turned into a 60 minute musical broadcast.

Not only did Prof. Ellis help – he took it one step further by offering himself as the test subject.

He said: "I loved the suggestion of interpreting brainwaves musically and we agreed using the brain patterns of a sleep specialist would add another interesting element.

"When I took part there was so much going through my head thinking about what my sleep would look like, so it took me a while to drift off!

"As well as helping to create something truly unique, it has given me a valuable insight into what it feels like to be the focus of the experiments I usually conduct.

"Sometimes people are reluctant to be open about their concerns or fears because they worry they will sound silly – but now I've been in their position I have an even better understanding and can help address their concerns before research begins."

The recording took place in February at the centre at Northumbria University, which is one of only three purposely built academic facilities dedicated to the research of sleep in the UK.

The experiment was Jason's first time sleeping in his own lab, which resembles a comfortable hotel room.

The results were then passed over to Noizechoir which worked to create a piece of music based on its interpretation of the brain activity. The Newcastle-based group is unique in that its members create music in response to location, architecture and environment as well as exploring other notions such as light pollution and radio landscapes.

Lindsay Duncanson, co-founder of Noizechoir, said: "We have never done anything with brainwaves before so it was an exciting project to be

involved in. Our choir is generally interested in science and this experience has been an education as we have learned all about the process of sleep.

“Stepping into someone else’s world and creating something from that has been interesting. It sparked a lot of creative thoughts and ideas – it’s been great.”

This work is one of only four submissions which have been selected from around the world for the broadcast at the end of July.

Along with the coral pieces performed and recorded by the Noizechoir, the broadcast will feature interviews and audio recordings of Jason’s experience to create a sound portrait of the sleep centre, exploring its aural landscape, its culture and the science that underpins it.

Professor Ellis was extremely impressed with the recording when he heard it for the first time.

He said: “It’s weird but interesting! The most striking thing for me is that I can actually hear all the nuances of sleep - breathing, brain waves, muscle movements, heart - together in one medium. That for me is a first.”

Michae McHugh of record label Signals added: “The broadcast in itself is an exciting departure from traditional sleep science. The field of sleep research is a relatively new area of study and the broadcast offers a new and challenging opportunity to creatively re-interpret data that is usually presented graphically.”

The broadcast, entitled ‘What does the Dream of the Dream scientist sound like?’, will be aired on Resonance FM on Tuesday, 29th July at 8pm and as well as via a network of artist and community radio stations globally. It will also be streamed online at [www.radioarts.org.uk](http://www.radioarts.org.uk)

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