



Could people with alcohol addiction re-train their brains to help them quit?

People with alcohol addiction, eating disorders and post-traumatic stress may be able to help treat their condition by retraining the way their brains work.

A team of scientists, led by Cardiff University, is embarking on a major four-year study to test whether a technique known as Neurofeedback is an effective additional form of treatment for people suffering with mental and behavioural disorders including: autism, alcohol addiction, post-traumatic stress disorder, and eating disorders.

“Self-regulation of brain activity in humans based on real-time feedback of brain imaging signals is emerging as a powerful new technique,” according to Professor David Linden from Cardiff University, who will co-ordinate the €5.9M European Commission funded BRAINTRAIN consortium alongside neuroscientists, physicists, psychiatrists and computer scientists from the Netherlands, France, Portugal, Germany, Israel and the UK.

“Using an MRI scanner, Neurofeedback allows scientists to monitor brain activity of patients in real-time. The activity levels are then fed back to the patient in the form of a simple display on a screen.

“Using the feedback, it allows patients to see and alter activity in specific parts of their brain. Previous studies have already suggested that this technique might help people with depression and Parkinson’s disease improve their symptoms.”

The project will bring together teams from academia and industry and explore the feasibility in a number of mental and behavioural disorders - specifically characterised by dysfunctional brain systems for motivation, emotion regulation and social communication.

Professor Linden adds: “By bringing together some of the world’s best scientists in the field we will explore and refine real-time functional neuroimaging and find out whether they can be used to train patients to regulate their own brain activity.

“We want to establish whether it can help restore function, improve symptoms and promote resilience.

“Ultimately we hope to establish whether this new technique could become a part of comprehensive treatment programmes for these conditions.”

Much of the research will be undertaken at Cardiff University’s Brain Imaging Research Centre (CUBRIC) using MRI scanners. The Cardiff team is already evaluating the effects of the technique on depression and Parkinson’s disease.

The BRAINTRAIN consortium will meet for the first time in Cardiff later this month (24-26 November).

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Notes:

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Cardiff University

Cardiff University is recognised in independent government assessments as one of Britain’s leading teaching and research universities and is a member of the Russell Group of the UK’s most research intensive universities. Among its academic staff are two Nobel Laureates, including the winner of the 2007 Nobel Prize for Medicine, University Chancellor Professor Sir Martin Evans. Founded by Royal Charter in 1883, today the University combines impressive modern facilities and a dynamic approach to teaching and research. The University’s breadth of expertise encompasses: the College of Arts, Humanities and Social Sciences; the College of Biomedical and Life Sciences; and the College of Physical Sciences, along with a longstanding commitment to lifelong learning. Cardiff’s three flagship Research Institutes are offering radical new approaches to neurosciences and mental health, cancer stem cells and sustainable places.

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