

Developing a new biomarker for the early diagnosis of dementia; a novel nonlinear signal processing approach using resting state EEG.

<https://neurodegenerationresearch.eu/survey/developing-a-new-biomarker-for-the-early-diagnosis-of-dementia-a-novel-nonlinear-signal-processing-approach-using-resting-state-eeeg/>

Principal Investigators

Daniel Blackburn

Institution

University of Sheffield

Contact information of lead PI

Country

United Kingdom

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Developing a new biomarker for the early diagnosis of dementia; a novel nonlinear signal processing approach using resting state EEG.

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2.3

Keywords

Research Abstract

An accurate early diagnosis of Alzheimer's disease is crucial in order to provide support for people with dementia and their carers. Tests of memory and other higher-level processes cannot reliably diagnose people with early AD from those due to depression, strokes or other

types of dementia. Brain scans can exclude other causes of memory problems (such as a tumour), but cannot make a positive diagnosis because brain shrinkage only occurs after the onset of dementia. Changes in brain connectivity may be a useful early marker of dementia. How well the brain is connected can be measured using magnetic resonance imaging (MRI) brain scans but also with electroencephalography (EEG). EEG is more 'patient-friendly' as it only requires electrodes to be placed on the scalp to measure electrical activity. It is commonly used to diagnose epilepsy. EEG has been used to detect changes in connectivity in people with dementia but the methods are not sensitive enough to be used as a clinical diagnostic test. The University of Sheffield has developed new techniques using EEG to examine brain connectivity. This research will study EEG to see if subtle changes in brain-connectivity can help make a diagnosis of AD at an early stage.

Further information available at:

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Investments < €500k

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United Kingdom

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